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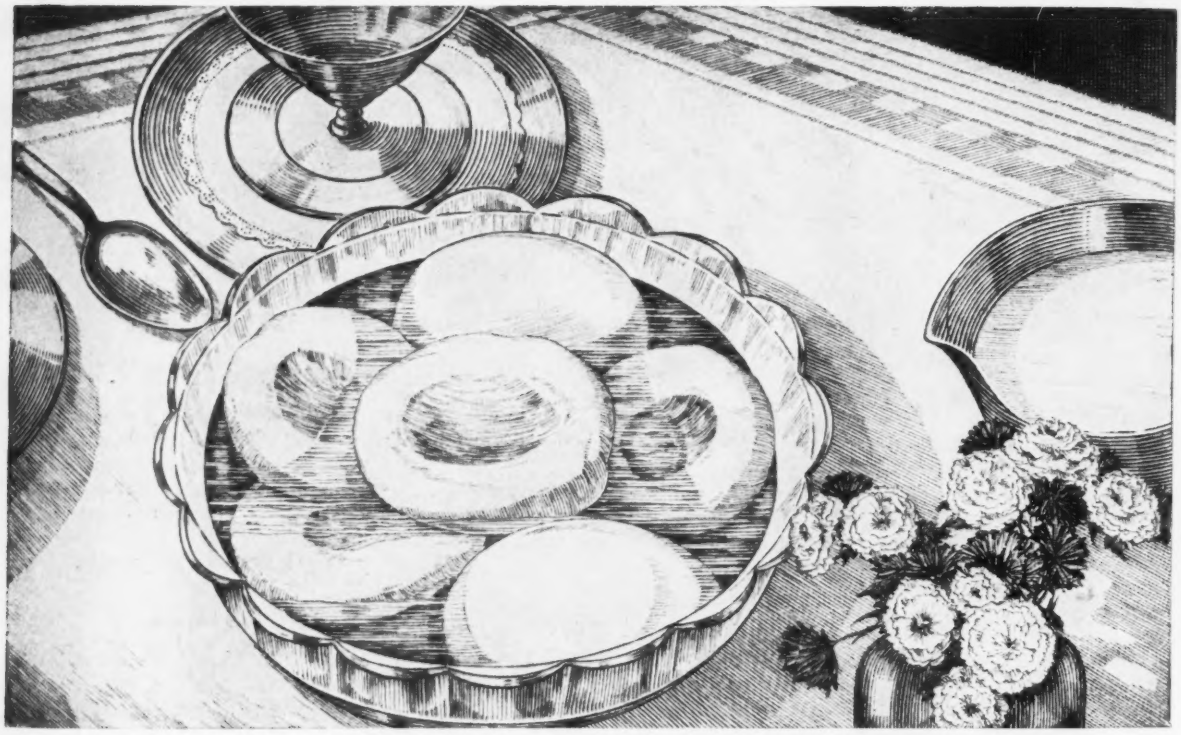

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Soap and Sanitary Chemicals

Volume XV
Number 3

MARCH
1939

SANITARY Products Section, which forms a part of every issue of SOAP, begins on page 71.

Contents

- Editorials 19
- Soap Discoloration 21
  By Joseph M. Vallance
- Germany's Soap 24
  By Ralph F. Seckelson
- Higher Fatty Alcohols—(VI)..... 28
  By Dr. Charles E. Mullin
- Treating Dark Fats for Soap..... 57
- Hydrogenated Oils in Soap..... 59
- Floor Waxes—What do Specifications Mean?... 90
  By Charles S. Glickman
- Some Opinions on Drip Machines..... 93
- Stock Sprays 99
  By E. M. Searls and F. M. Snyder
- Cold Sterilization 103
  By Dr. George F. Reddish and Ella M. Burlingame
- Contracts Awarded 45
- New Trademarks 47
- Raw Material Markets 51
- Raw Material Prices 53
- Products and Processes..... 60
- New Equipment 63
- New Patents 65
- Classified Advertising 127
- Advertisers' Index 132

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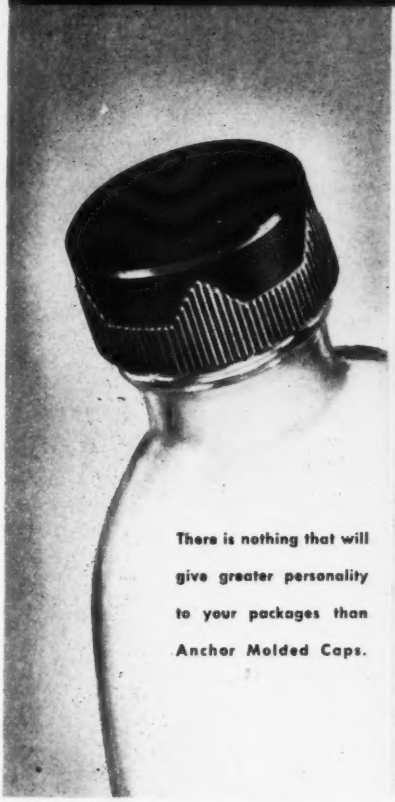

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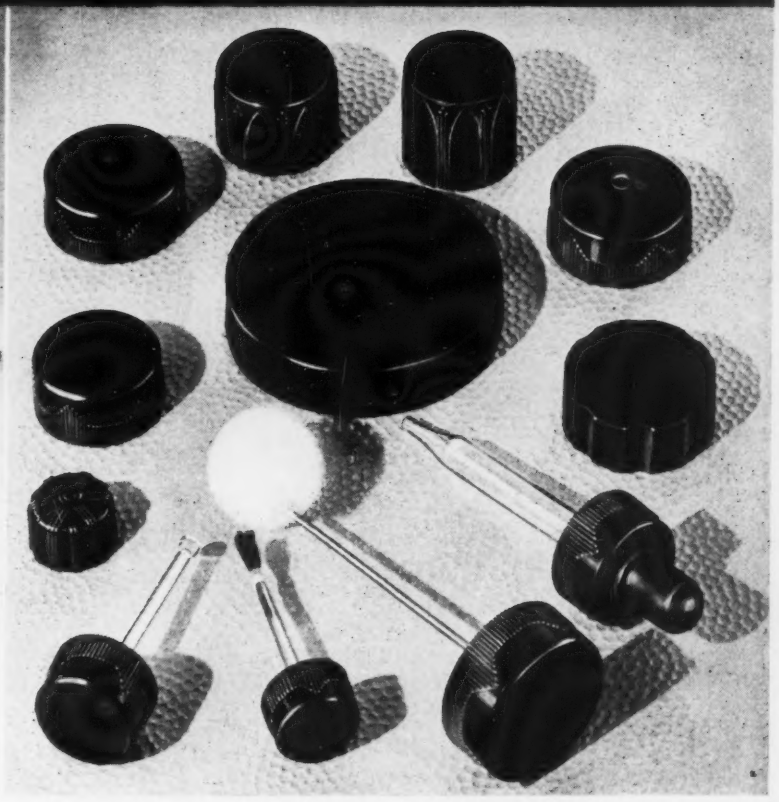

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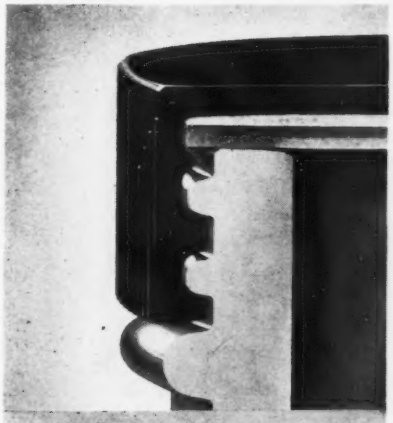

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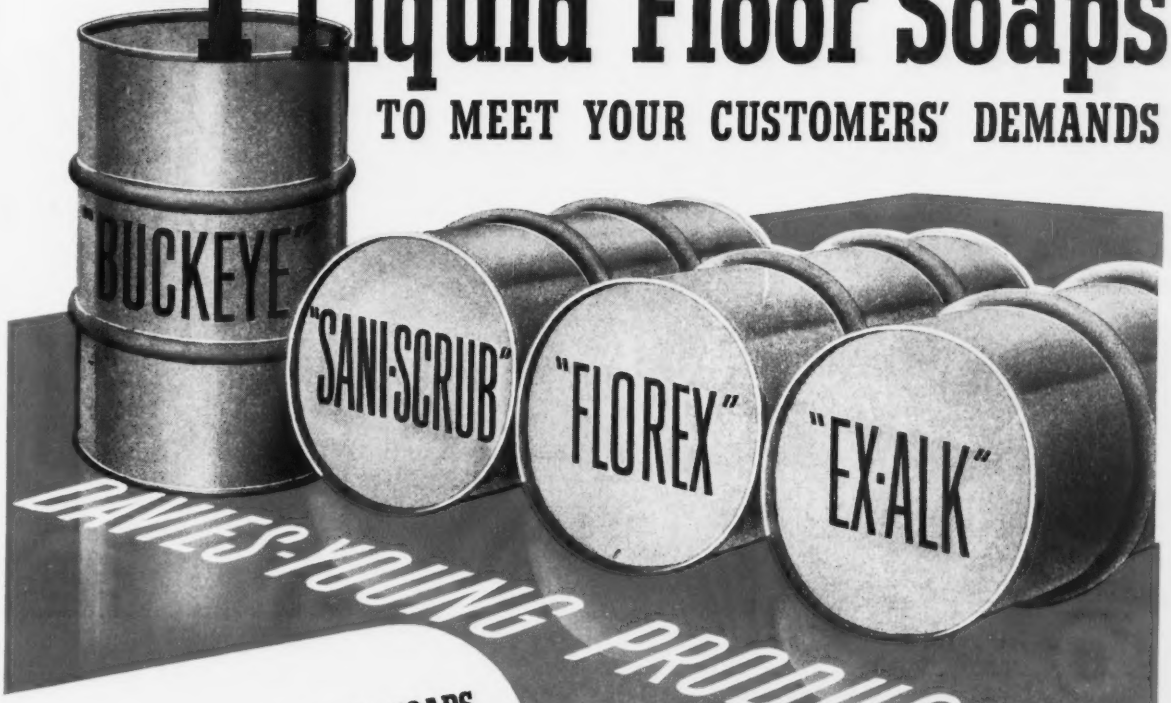

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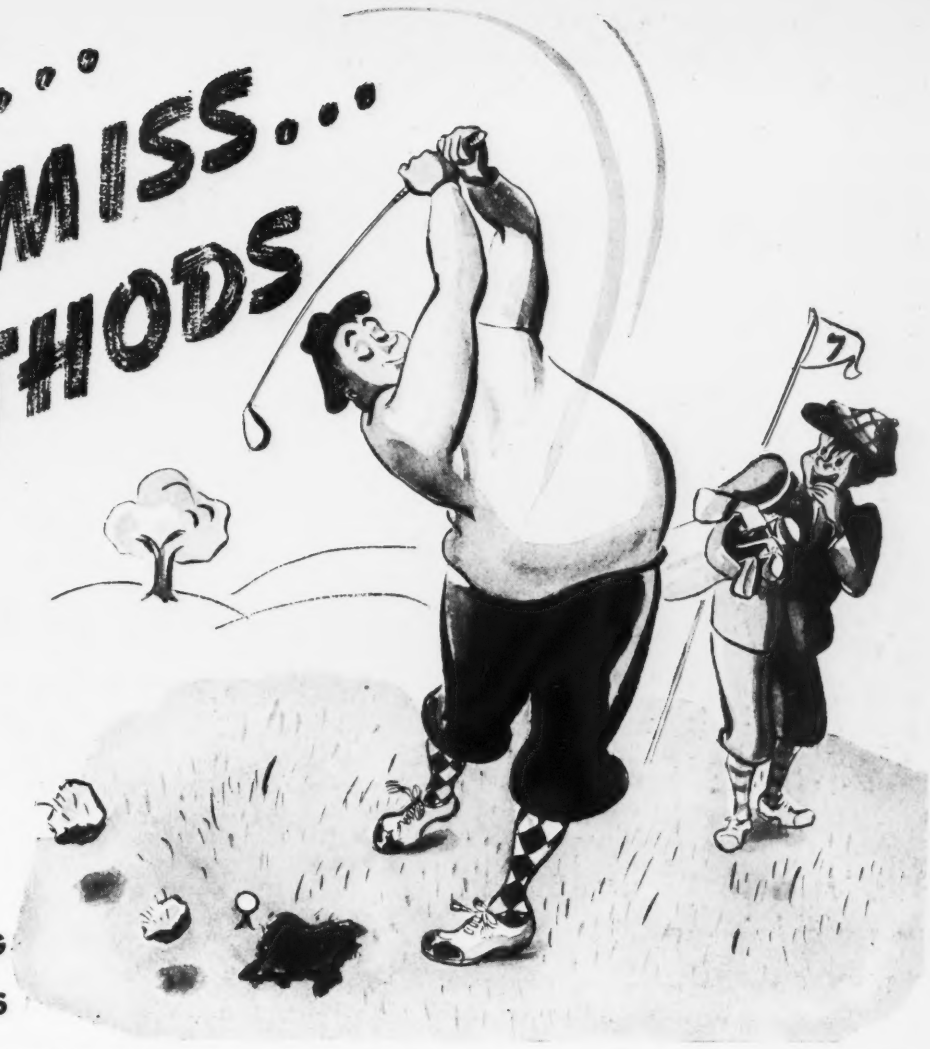

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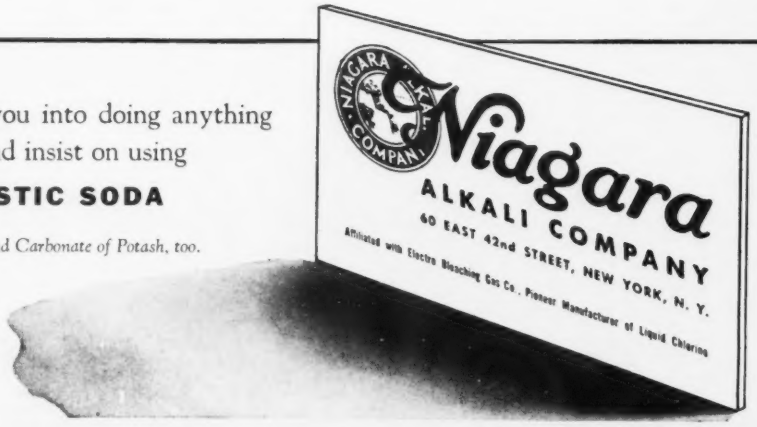

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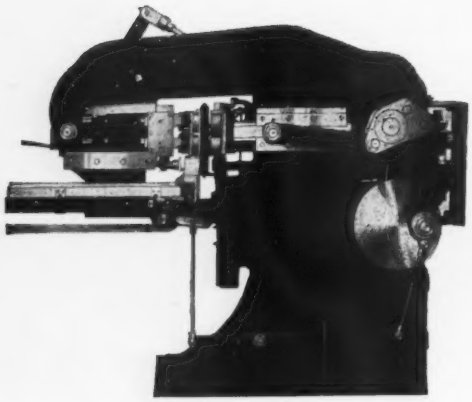

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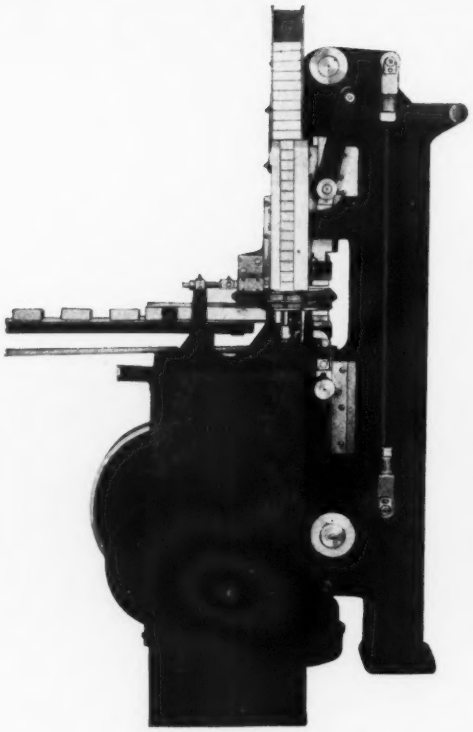

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As the Editor sees it..

ALTHOUGH we have no figures on which to base an opinion, it seems to us that there is a steady increase from year to year in court cases against manufacturers for damages supposedly resulting from the use of various household products. We particularly have reference to products such as cleaning fluids, soap products, fly sprays and other insecticides, disinfectants, and the like which fall into the loose classification of chemical specialties. Of course, a large number of these legal actions are also directed against manufacturers of food products and mechanical devices, but these have no particular interest here. The fact remains that the number of product damage cases has reached the point where it is certainly time for American manufacturers as a body to act in unison to call a halt in this damage business. Manufacturers can certainly look for no help in this matter from the legal or medical professions, a portion of which butter their bread almost exclusively by this sort of practice. Manufacturers are going to have to do their own smashing of this legal snowball before it rolls further and grows still larger.

Product damage suits have always been one of the safest and most lucrative forms of blackmail. When they go into involved and vague alleged injuries, especially allergies, requiring high-pressure legal talent and supposedly highly scientific medical testimony, these cases are usually juicy morsels for the lawyers and the doctors. And irrespective of the honesty of the suit, or its basis in fact, whether it be the deliberate action of a designing crook, or that of a crack-pot, the manufacturer has no choice but to defend himself, and shoulder the expenses involved. If the manufacturer has product-liability insurance, well and good, it saves that much, but we feel, on the other hand, that such type of insurance may have been a factor in encouraging the very situation against which it is supposed to protect.

Just of late, we have heard of a manufacturer who fought and beat a rather nasty product injury case in the courts. So far-fetched was the foundation of the suit and the so-called medical testimony submitted, —incidentally by a lawyer-doctor combination which specializes in this type of case, —that the manufacturer is turning about and taking both civil and criminal action against the plaintiff, attorney and witnesses. Although this may be futile, it does seem that a few widely publicized cases where the manufacturer strikes back, might tend to discourage future litigants in search of easy money. There is certainly no point in the manufacturers sitting by indefinitely and just "taking it." They are going to have to find a way to strike back, and strike back hard at these people, the vast majority of whom we have always believed to be nothing more than plain blackmailers.

THAT a determined effort will be made at this session of Congress to increase the processing tax on coconut oil and other imported oils and fats from three cents per pound to five cents, is quite certain, according to current activities in Washington. The backing for the proposed tax increase is reported to be of the strongest variety, the farm, dairy, fish oil and cot-

ton oil interests. The fact that many soapers had a good year in 1938, in spite of the present three-cent tax, will undoubtedly be used to its fullest advantage by those advocating the higher tax.

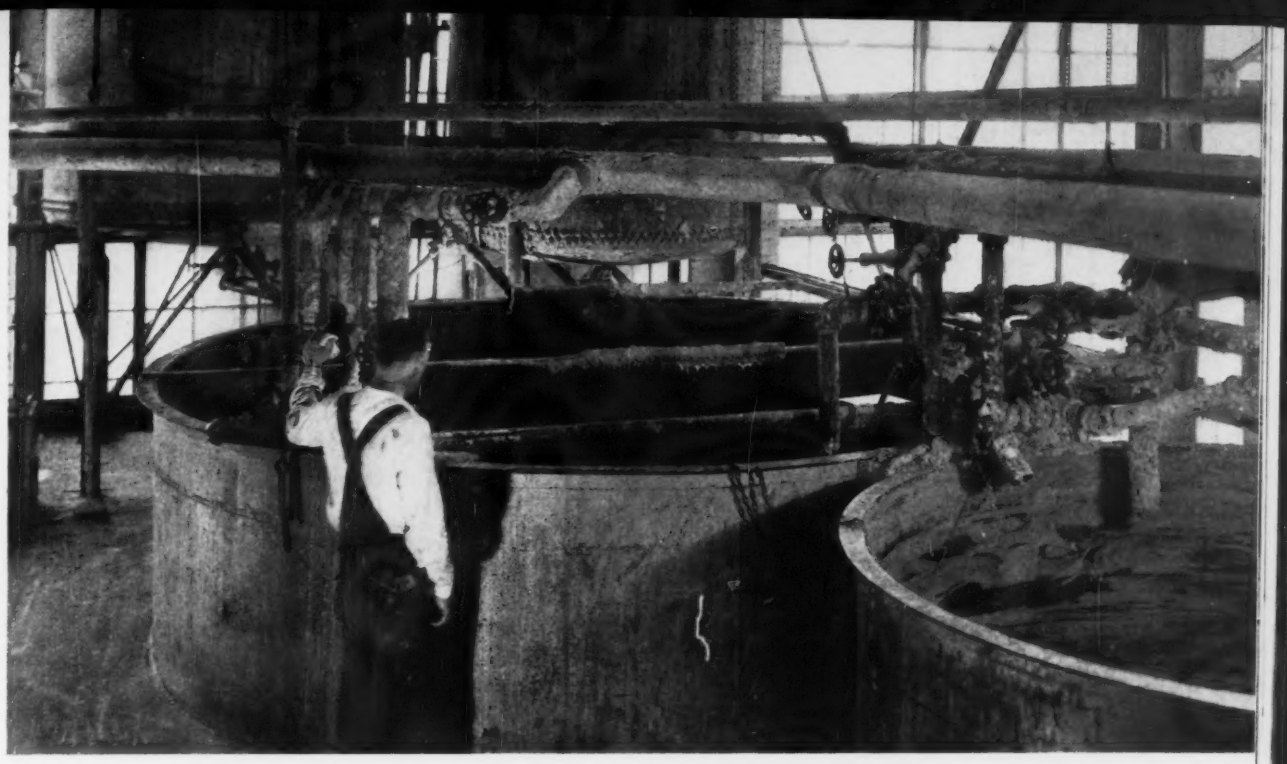
The present excise tax falls heaviest on the numerous small units of the soap industry. Any higher tax will operate with proportionate disadvantage to the little fellow. If Congress wants to drive more small soapers out of business and encourage a greater concentration of soap manufacture in fewer hands, its indicated path is well chosen. Accordingly, sharp protests to senators and congressmen by every small soap firm in the country, are in order right now against any tax increase,—the smaller your firm, the more reason for the protest, —and mention should be made of the fact that this newest proposed tax burden will fall heaviest on the little fellow. With strong backing, this proposed higher excise tax will take stronger opposition to defeat it.

THE new federal Food, Drug and Cosmetic Act which becomes effective next June was passed by Congress only after several years of deliberation and careful consideration. Taken as a whole, the new law seems to be satisfactory in a general way to government agencies and to reputable manufacturers. In numerous state legislatures, there has been a movement this year toward new food and drug legislation in keeping with the new federal law. But, there does not appear to be the uniformity which there should be in these proposed state bills to keep them parallel and to avoid conflict with the federal law. Obviously, any serious differences between state and federal laws are liable to lead to hopeless confusion.

A model state food, drug and cosmetic act has been drawn up by the Association of Food and Drug Officials of the U. S. It applies the principles of the federal law to state needs, and in the opinion of those who should know, it fulfills the requirements of a sensible, workable act. As for soaps, we note that these are exempted as they are in the federal law.

WITH too much speed for comfort, new legislative restrictions on industry are spreading over the country. The list of requirements for the privilege of engaging in business continues to grow steadily. One state after another considers new legislation requiring licensing, registration, and what not. New proposed requirements for the registration of firms, of products, of trade-marks, and even of individuals are mounting to positively prohibitive proportions. That all these new state bills, if they become law, will cost industry tens of millions of dollars annually, is the view of authorities who are studying the problem,—and will add just so much more to the ever growing tax burden.

Most of these new bills are a brazen attempt to make out-of-state manufacturers help replenish state funds depleted by the wildest orgy of political spending which has ever swept over this land of ours. Most of them are unfair, without any sound basis in the scheme of honest taxation, and little else than a legalized hold-up. That thousands and thousands of **small manufacturers,** unable to shoulder additional tax burdens, will be the chief sufferers, has apparently never occurred to these legislatures in their frenzied scramble to grab more money wherever obtainable. The ever-growing disgust and resentment among business men against the stupid and coldly selfish policies of many state legislators is bound eventually to come home to roost on the doorsteps of these same legislators. But when? Can these new laws and their burdensome fees keep on multiplying forever?



SOAP DISCOLORATION

. . . its avoidance

By Joseph M. Vallance
London, England

ACCORDING to the technical literature on the subject, the discoloration or "spotting" of soaps after manufacture would appear to be due to one or more of a combination of factors, including rancidification, metallic contamination, use of unsuitable fats and oils, over-rapid drying, action of bacteria and moulds, presence of lower fatty acids of the unsaturated oleic acid series, effect of exposure to light, and, of course, the incorporation of unsuitable dyestuffs and perfumes.

In the first place, one must differentiate between the normal dark coloration of soaps made from dark oils and fats, and the problem of spot formation or progressive discoloration after the soap has actually been made. Secondly, one must concede that discoloration is not always accompanied by rancidity,—nor, for that matter is rancidity necessarily characterized by discoloration. The effect of incomplete saponification, over-rapid drying, contact with certain metals, and the utilization of partially rancid stocks,—all these may nevertheless be regarded as various aspects of oxidation that may lead to spot formation.

Above: The author concurs in recommendations for nickel-lined or other non-ferrous metal for soap kettles, storage tanks, etc. as one means of preventing discoloration.

To avoid soap discoloration, attention must obviously be paid not only to the selection of appropriate raw materials, but also to the various soap-making processes, from boiling to pressing (and even in certain cases, to packaging). Contact with metals, especially during the finishing operations, must be watched very carefully. Perfumery raw materials known to discolor must be avoided. Antioxidants should be incorporated as and when necessary. An attempt will be made here to consider these various pro-discoloration factors, in the order in which they may be encountered, as one passes from process to process. Some are of outstanding importance and continually recur in practice, while certain others mentioned in the

technical literature seem to the present writer to exert only a very occasional or even quite negligible effect.

Unsuitable Raw Materials

COTTONSEED oil, olive oil foots, air-bleached palm oil, linseed oil, peanut oil, certain hardened fats, soya bean and sunflower oils,—all these have been said, at one time or another, to yield soaps with a tendency to discolor. Much, however, depends upon the age of such fats and oils, their degree of purity, and the completeness with which they are saponified. In regard to olive oil foots, for example, it has been stated that many U. S. soapmakers have shipped soaps made with such foots to South American ports, only to have them returned in a dark brown, rancid condition, after they had been exposed for a season to the humid tropical climate. On the other hand, there is no doubt that the quality of foots depends very largely upon the age of the oil refined, fresh oil making excellent foots, while foots made from oil that has stood for a few months is risky to use, since with age the crude oil contains an increasing proportion of decomposition products of linoleic and oleic acids.

The fats and oils customarily employed in the manufacture of best white toilet soap base should not give rise to discoloration problems, under ordinary circumstances, provided that they are reasonably free from rancidity, completely free from traces of metal salts such as copper salts, and are properly saponified. Good artificially colored soaps should only be manufactured, if possible, from white toilet base,—except in the case of those which take the natural color of the oils from which they are made, e.g., palm and olive soaps.

Most commercial tallows, lards and greases are more or less rancid. The degree of rancidity depends not only upon their age, but also on their source, for tallows obtained from cattle at one season of the year are apt to show different characteristics from those derived from cattle killed at another period or reared on different fodder. This means that tallows, etc., should always be subjected to organoleptic and laboratory tests before use in the factory. It also indicates the advisability of the general utility of anti-oxidants, which will be considered later.

An attempt was made some time ago by F. Wittka (*Seif.-Ztg.* 1930, 773-5) to classify fats and oils in five groups, according to the proneness to rancidity (and sometimes discoloration) of the soaps prepared from them. His classification runs briefly as follows:

Group 1. Fats yielding hard soaps. These are tallow, lard, and hardened fats. Since the fatty acids of this group are only slightly sensitive to oxygen, soaps made from such fats are likewise but slightly sensitive.

Group 2. Fats yielding soft soaps of relatively good stability, only undergoing slight change when stored in contact with air. This is the group of liquid fats, the non-drying oils. They have a higher iodine value and greater tendency to oxidize than the first group, and may thus be held responsible for the spotting of soaps, particularly in the presence of metallic catalysts.

Group 3. Fats yielding very soft soaps, readily undergoing changes in the air and during storage,—liquid fats of the drying and semi-drying oil class. These are still more prone to oxidation and therefore to rancidification and spot formation.

Group 4. Fats of the coconut oil group. These give soaps with the least tendency of all to rancidity.

As a practical, rather than a scientific differentiation, Wittka distinguishes between two types of rancidity phenomena, i.e., rancidification following oxidation of fatty acids, and that consequent upon liberation of lower fatty acids. Both causes may also be responsible for discoloration, the former chiefly when present in association with metallic impurities.

Thomssen and Kemp, in "*Modern Soap Making*," also point out that peanut, sesame and similar oils are not well adapted for use as raw materials in the manufacture of toilet soap base, due to the fact that they are apt to discolor or bring about the formation of yellow spots. Generally speaking, this is sound advice,—and applies to all the semi-drying and drying oils (cottonseed, corn, peanut, soya bean, sesame, sunflower and linseed), even though most of these do not, in any case, enter into consideration as raw materials for white cake soaps.

On the other hand, Dr. J. Davidsohn (*Seif-Ztg.* 1930, 794) has cast a certain amount of doubt on the theories of Wittka, by stressing the fact that, in his experience, semi-drying and drying oils do not necessarily lead to rancidity and yellow flecks when soaps made from them are correctly processed. In support of this contention, Davidsohn points out that sunflower oil is widely used in Soviet Russia, not merely in cheap household soaps, but also as a raw material for toilet soap base. Milled toilet soaps free from any tendency to progressive discoloration may be made, according to Davidsohn, not only from sunflower oil, but from most other oils of the same group. While the present writer agrees to some extent with Dr. Davidsohn, it appears to him that from the theoretical, as well as the practical point of view, there is much more *opportunity* for discoloration troubles to occur when the soapmaker is dealing with Wittka's Groups 2 and 3, than when he makes up his kettle charge with the much less troublesome Groups 1 and 4.

Leaving aside considerations of age, degree of purity, content of metals and unsaponifiable matter,—there is no doubt that commercial fats of the recommended groups are definitely less likely to cause progressive discoloration, even in yellow and other non-white soaps, than the other two groups.

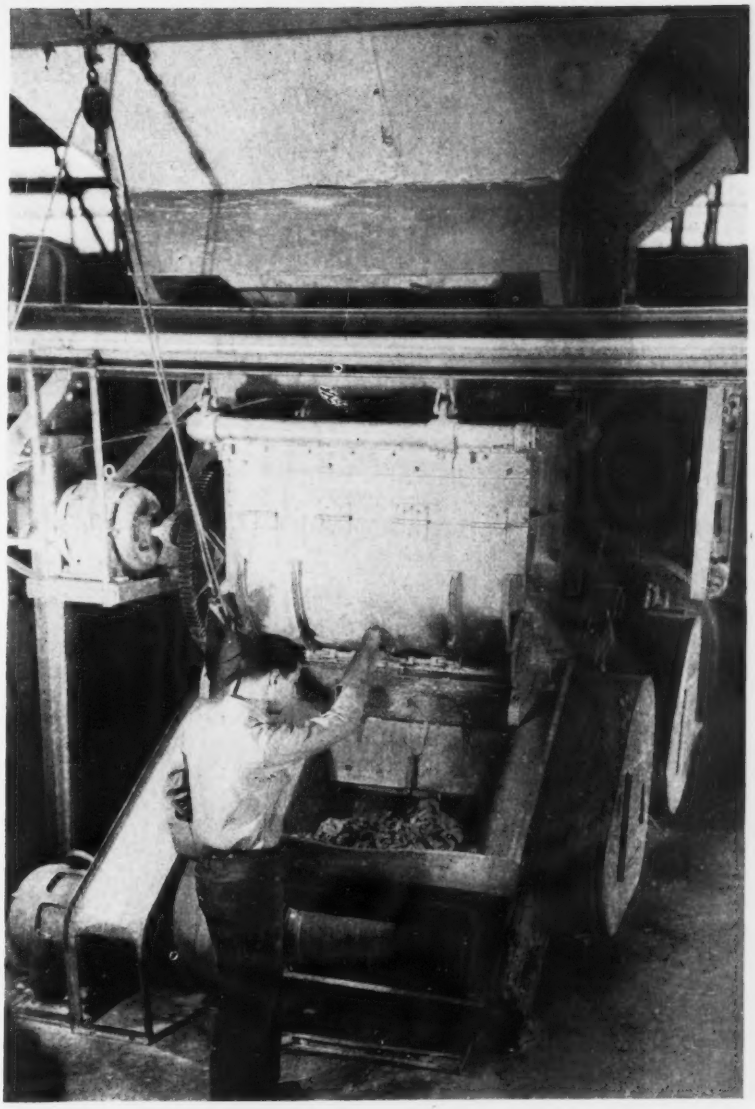
Pre-Treated Oils and Rosin

AN additional factor in the discoloration of soaps is the use of oxidation-bleached oils, certain hardened oils and, in the case of ordinary household soaps, rosin. Chemical bleaching may be divided

into two main categories, namely the oxidation process and the reduction process. There is no doubt at all that oils and fats bleached to a pale color by the former type of process are apt to produce soaps that subsequently darken this being due to the nature of the process itself, which consists in the taking up of oxygen, forming relatively labile compounds which may subsequently be decomposed during saponification. For this reason, fats and oils bleached by the reduction process (with sulfurous acid, hydrosulfurous acid and their salts), or by means of bleaching earths, are to be preferred, together, where necessary, with oils bleached in high vacuum.

It is quite true, of course, that many thousands of tons of soap have been successfully made containing up to 60 per cent of air-bleached palm oil, but that over-bleaching can and does cause trouble is well known to practising soapmakers and was in fact recently confirmed by F. Wittka (*Seif-Ztg.* 1938, 355/6.) Wittka reported that rancidity in a batch of soap was traced to the use of palm oil which had been over-bleached by air-blowing. Such over-oxidized oil contained 1.5 to 2.05 per cent of dark fatty acids (as compared with 0.35 to 0.45 per cent for unbleached and well-bleached oils) the soaps from which are not salted out by electrolytes. No means could be found whereby the occurrence of occasional overbleaching (i.e., oxidation of the oil itself) could be prevented in the air-blowing method, he concluded.

Hardened fats have been blamed, on occasion, for causing soaps to discolor. H. Braun (*Riech. Ind.* 1937, 124) having fairly recently suggested that they should be handled with caution, due to the fact that they "frequently contain cotton oil." Such cautiousness seems in my opinion to be unjustified. In fact, hydrogenated oils would appear to be exceptionally free from any tendency to progressive discoloration, although they certainly tend to make "short," brittle soaps unless properly handled. Formerly, hardened oils contained traces of impurities that reacted with sulfite bleaches to form black compounds in the form of specks, but even in the bad old days, the proportion of salts capable of such reactions was so low as to be negligible, especially as their slight effect was entirely offset by the general improvement in color brought about by the bleach.



The author recommends the use of a small proportion of stannous chloride solution, added in the amalgamator prior to milling,—not as a bleach, but as an effective means of inhibiting any tendency of the soap toward later discoloration.

In fact, while on the subject of hydrogenation, mention should be made of U. S. Patent No. 2,078,726, which claims a process for preventing the yellowing of cold-process soaps by subjecting the coconut or palm kernel oil to a slight degree of hydrogenation. As is well known, soaps made by the ordinary cold process are white at first, but afterwards develop a yellow coating, a discoloration phenomenon that is accelerated by exposure to heat and light. According to the patent in question, it has been found that by subjecting a high-saponification-number and low-iodine-number vegetable oil to a controlled degree of hydrogenation before saponification, the objectionable yellowing effect is substantially inhibited.

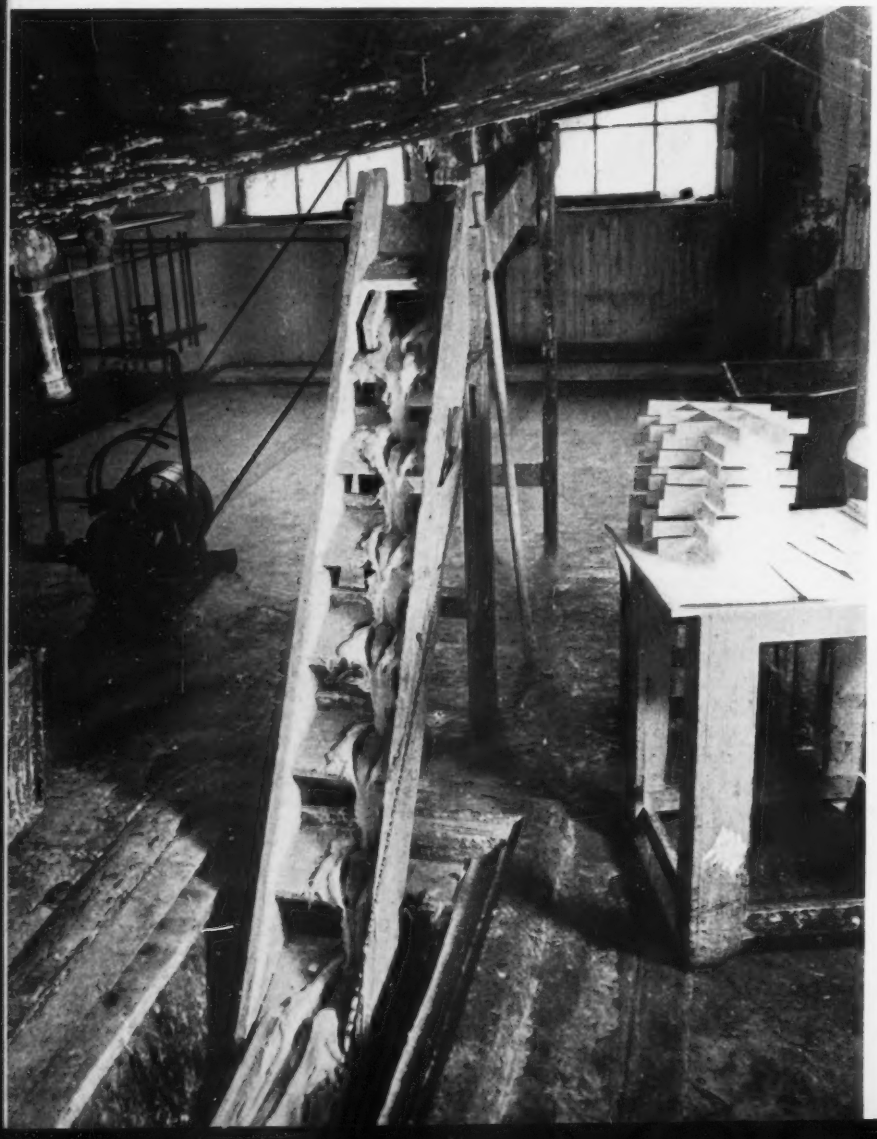
(*Turn to Page* 67)

Germany's Soap

. . . manufacturers turn to fatty acids and lower grade fats in raw material shortage

BEHIND the present unsatisfactory situation in the German soap industry lies a serious shortage of proper raw material resulting directly from restrictions placed on imports. These restrictions have grown out of Germany's chief economic difficulty, the maintenance of a favorable balance in her foreign trade. In reality, the reichmark is nothing more than an interior currency without any substantially true gold backing. As such, the reichmark is unacceptable for the settlement of international obligations. Because of this, the government has been regulating closely the entire system of monetary exchange and foreign trade particularly import.

Every exporter in Germany upon receiving payment in foreign currency must immediately turn this money over to the state in return for which he receives reichmarks. With this foreign currency, the government then pays for imports coming into Germany. In order to maintain the efficiency of this system, it is necessary for the government to keep a scrupulous check upon this gigantic and involved method which constitutes the foreign purchasing power of the Third Reich.



In the last few years especially, there has been an abnormally large amount of imports as a result of the tremendous rearmament program. Huge quantities of raw materials not available within German borders were required, such as iron ore, manganese, cotton, copper, oil, e.g. This excessive increase in imports threw out of balance the intricate machine which supplied the necessary monies needed to pay for them, and necessitated an immediate decrease on all other imports.

Instant and drastic steps were taken. Those goods that were essential for the rearmament program received priority on the list of allowed imports. All others were reduced to an absolute minimum. This system often resulted in an actual shortage even of staple foods such as meat, butter, fruits, etc.

Never in German history have sufficient animal fats or vegetable oils been produced within its own borders to meet the needs of the people. With this new order of things, a situation has arisen whereby the soap industry must actually fight for its share of the available fats that are imported in greatly reduced quantities. To keep the imports of the soap industry as small as possible, a government agency known as the "Reichsstelle" or Reich Fat Control Board was created. It was granted almost unlimited powers in order to control the fat consuming industries. The first

By
Ralph F. Seckelson
American Soap Powder Works

action taken by this Board was to nullify a law of good business,—restricting production to a point not in excess of the preceding year (1933), which was an all-time low for the German soap industry. This stabilization of production was grossly unfair because during 1933 those factories which had produced on a large scale in an effort to overcome falling prices by cutting overhead costs, now had the advantage of larger production over those organizations that had retrenched due to necessity.

This measure of the government did not bring the expected results. The quantity of the available fats was now limited and soap production reduced to a standstill. A contact began between the government Fats Control Board and industry, the business man fighting for the vital supply of raw materials, the government struggling to keep imports down to rock-bottom levels. These disturbances could only be stopped by further regulations being enforced and the distressed soap industry frantically searched for a way out.

Of the innumerable decrees and interdictions a few are listed for illustrative purposes:

1. A specified maximum quantity of raw materials was allowed each firm monthly.

2. Prohibition of direct imports. Only importers with special licenses from the government for each purpose could supply material.

3. Limited prices to be received for manufactured products.

4. Prohibiting the increase of production of all expensive brands. and at the same time compelling the manufacturer to continue making the same quantity of cheaper grades.

5. Inability to select the type of fat needed. The government arranged for special fats to go to different factories.

6. It was forbidden to use neutral fats to make soaps from which usually the glycerin was not recovered, such as soft soaps, household soaps, cold-made soaps, shaving creams, etc.

7. Neutral fats to be used only for toilet soaps, necessitating the delivery of the glycerin and spent lye at fixed prices.

8. Prohibiting the use of filling for toilet soaps.

9. Household soaps restricted to 52% fatty acid content.

It is almost impossible to attempt to explain the seriously disruptive effect that these regulations had on the industry. but it can be realized what such restrictions would mean in any soap factory. These few examples only tend to show how the soap industry was hampered and fettered in its attempts to carry on normal business existence. There were so many decrees with fines so drastic for their breach that the larger firms hired extra statisticians and lawyers just to try to keep them out of trouble.

Emergencies of this type occasionally tend to benefit industry by their very nature. During the World War for instance when necessity demanded the utmost from the scientists of industry, great strides forward were made in new knowledge and technique. Abundance of raw materials simplifies manufacturing. It is generally the compulsion of shortage that stimulates research activity. Some years back, there was founded a group in Germany (supported by the government) whose task was to work out the synthesis of fatty acids from coal and its distillates. Recently, they succeeded in obtaining fatty acids in this manner from which soaps were

made and sold. The quality of the new fatty acids was equal to the natural product, but the high cost of production prevented their general use in industry until very recently.

Improvement in processes of distilling fatty acids has developed very rapidly. The reason for the intense concentration on the advancement of this method is because the Fat Control Board forces industry to use fatty acids for many products which formerly were made with neutral fats. On the other hand, the quality of imported fats is uniformly very poor because of the system of purchasing as much fat for as little foreign currency as possible.—and only the lower grades are imported.

Not all of these fats can be bleached by the usual methods of treating them with bichromate, air or earths. Especially is this true of those imported through the Reichsstelle most of which were of very poor quality. On the other hand, especially in Germany, the consumer has always preferred white or light soaps. For this reason the soap industry had to direct its main attention to improving the very dark tallows, greases, etc., so as to replace the formerly-used fats of the better quality. Today in Germany, there is hardly a soap factory of any size which does not have its own bleaching apparatus, using usually the old-fashioned earth method. But all fats cannot be utilized by this method, particularly fatty acids from which the results are very poor.

CAUGHT between the poor quality of fats on one hand and the government decree necessitating the use of fatty acids on the other, the quantity of fatty acids produced and the number of producers has advanced by leaps and bounds. As a result of this situation, the larger soap factories started to engage in their own distillation, while a number of special factories supply the smaller soap makers. Distilled fatty acids of palmoil especially have made an excellent raw material for German soap makers. It retains all its excellent qualities and remains completely colorless. Waste fatty acids from the oil refineries, which used to have only limited possibilities on account of dirt content, secondary ingredients and dark color, are now being recovered pure white through

"Save the metal in this tube" . . . a reflection of the serious shortage of metals in Germany . . . This small insert is packed with all tubes of dentifrices, shaving cream, etc.

distillation, and constitute first-quality raw materials for soap makers.

The prices of these raw materials are necessarily higher due to the cost of distillation, but on the other hand the soap industry at least finds part compensation for these higher prices. The distilled fatty acids are saponifiable 98-100%, while neutral fats contain 5-8% glycerine. The saponification can be done with sodium carbonate which is considerably cheaper than caustic soda. The boiling process of this pure raw material can be shortened as many washings are saved due to the absence of glycerine and the purity of the fatty material.

The decree prohibiting the use for soap of neutral fats from which glycerine was not reclaimed, made it very difficult for the soap manufacturer in the beginning. All the cold and semi-boiled soaps which had used neutral fats exclusively were hard hit. The extremely fast saponification of the fatty acids was detrimental to the making a uniform soap because during the customary stirring, lumps inevitably formed. These lumps then appeared in the soap blocks and later in the bars of soap, making them unsalable. Coloring and perfuming were also quite difficult in the beginning because all additions to the soap had to be able to resist the alkali which is stronger than before. For white soaps, *only* distilled fatty acids are being used as the split acids are too dark.

Whale oil has become of revived interest to the soap industry in these difficult times, too. The hardening and deodorizing of whale oil has been a familiar process, but attempts to use the hardened finished product for fine soaps have not worked out successfully in the past. The soaps are too hard and have a tendency to crack, but worst of all after a period of storage, the bad odor of the original raw material sometimes returned and this was stronger than the perfume. Unfortunate experiences such as these built up a mistrust of hardened whale oil so that for many years the soap industry rejected it as a raw material. The distilled fatty acids of hardened whale oil, however, in the past few years have proven an excellent raw material. Originally the acids were introduced to the market from Norway and Japan and large quantities were imported by Germany. This raw material now greatly improved by new methods of hardening and distilling has increased as much in importance that Germany has sent to the Southern Seas two whaling fleets of its own. By this method, they hope to secure larger quantities of oil without the necessity of using foreign currency to purchase it.

To digress momentarily, this new product is discussed in more detail with relation to the fine toilet soap, for as it is suitable for the best in soap, it is naturally suitable for other soaps.

Of course the soap maker cannot simply substitute hardened whale oil pound for pound for the tallow or palm oil in his fat formula. The entirely different characteristics of this material demands a readjustment of the formula and the boiling method, too. Due to the great variety of the finished products made from this oil, it is not practical to attempt to give any valid recipe for its use that would cover all soaps. The hardened fat comes in various titres,—40/42,

44/46, 50/52 degrees Celsius. For the fine toilet soap, the softest product is preferred. But nevertheless, the high-titre oil is of good use, too, and the writer has already boiled soap with more than 40% of this high titre distilled oil and secured favorable results.

Generally, the special qualifications of the oil have to be compensated for in the formula. Oils have to be added to give the correct titre to the fat mixture so that the finished product gets the necessary plasticity and homogenity. To make a quick-lathering soap, the amount of coconut oil must be increased in proportion to the amount of hardened fat used. In the kettle, the soap maker will find that he must exercise caution. A higher amount of coconut oil demands special attention in the salt content. Depending to the composition, it is advisable to do the last salting out with alkali because the soap containing much hardened fat and coconut oil (up to 20 and 25%) is extremely sensitive to salt. The finishing, too, has to be done with special care.

All in all it can be stated that even the finest toilet soaps containing 50% hardened whale oil fatty acid, were equal to the best products on the market. Even soap containing 70-80% hardened fat was manufactured, too! Using about 40%, there were no such defects as those that gave the hardened fat such a bad name years ago. The soap lathers quickly and gives a soft lather. It does not dissolve or soften in use more rapidly than other soaps, and it can be milled faultlessly by using the right method, gives a good bar and does not revert in odor at all. Other advantages of this fat are its snow white color and its purity (like all distilled fats). Frequently it is cheaper than tallow.

GETTING back to the situation in Germany,—the decree to market household soaps with only 52% fatty acid content came like all decrees of the "Reichsstelle," without a day of warning. It was a peculiar situation because many of these household soaps had been advertised for years telling of their particular purity regarding the fat content.

In Germany of today, though, there is no discussion or qualifying of government decrees. The only course open is obedience. As a result of this edict, the consumer gets a soap with only 52% f.a., which he buys unaware of the inferior quality. The manufacturer unable to produce the old reliable merchandise, attempts his filling as unconspicuously as possible, trying to save the good name of his product as much as possible in such a situation, the idea being that neither the appearance nor the washing effect should suffer. The filling must not crystallize out of the body of the soap. This is particularly a problem if the fat formula contains coconut and palm kernel oils and as such can hold very little salt and alkali. In this case, too, there cannot be given any general recipe because the filling has to be adjusted to the special proportions of the fat formula and the purpose of the product. In general, it can be stated that sugar combines soap and filling very well and gives good storage consistency to the soap. About 1% dissolved in twice the quantity of water proved helpful. Sodium metaphosphate makes a very good filler. From 1-3% dissolved in three times as much water makes the soap chalk-stable and raises the washing qualities, too. Larger quantities are not advisable as the drying loss in storing the soap is too high (deformation of the bar). There is also the familiar sodium silicate which is used in nearly every recipe. Semi-dissolvable industrial starch has also proved of helpfulness.

In fairness to the filled soap, it should be pointed out that the cleansing value does not decrease in equal measure. Building up the filler in a sensible way has resulted in lessening the utility of the soap only by half in the proportion to the reduction of the fat content.

The German soap makers are surrounded with prohibiting man dates. They cannot make a move without the special permission of the "Reichsstelle," but hoping to keep their reputation and maintain the tradition of their products, they are striving to turn out the best possible material. Extraordinary times demand extraordinary means,—this is the spark that has kept the fire of industry alive in Germany in spite of all which has happened.

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Hard fats are obtained from vegetable and animal oils with a high fatty acid content, especially those obtained by extraction with carbon disulfide, by treatment with hydrogen at 200-300° C. Sulfur, arsenic and phosphorus are rendered volatile by this process and are eliminated from the oil by the current of hydrogen. The hydrogen is purified by passage through aqueous solutions of basic substances such as alkali or alkali carbonates, and rinsed. Bus Akt.-Ges. French Patent No. 820,184.

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In the solvent extraction of solid material such as oil seeds, a moving sequence of sieve containers is provided and the solvent introduced by way of reservoirs, one at least of which is provided in each container. The solvent flows from the reservoir under a pressure determined by the head of solvent, to distributing devices, at least one of which is associated with each container and is connected to the reservoir. The solvent issues from the distributing device as a fine rain onto the material. Hansa-Muhle A.-G. British Patent No. 484,794.

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Mixtures of fats and waxes are treated with a saponifying agent under such conditions that only the fats are saponified. This is preferably effected with the aid of a fat-splitting catalyst. The product is washed, the liberated fatty acids are converted into soaps, and the waxes are then recovered from the mixture by filtration, centrifuging, compression or decantation. The process may be applied to marine-animal oils containing fats and waxes. Zschimmer & Schwarz chemische Fabrik Dölau. German Patent No. 656,215.

Higher Fatty Alcohols

Their synthesis particularly by hydrogenation as raw materials for the newer detergents

By Dr. Charles E. Mullin

THIS is the sixth and final article of a series by Dr. Mullin on the higher aliphatic alcohols with particular reference to those which are, or may be of interest in the manufacture of detergent and wetting products. These papers cover the present sources, both natural and synthetic, of these higher alcohols, as well as other sources of the synthetic products, at least some of which are likely to be of commercial importance in the near future.

—The Editors.

IN German Patent No. 629,898, June 6, 1936, to the Deutsche Hydrierwerke A.-G., W. Schrauth prepares synthetic waxes from high molecular saturated fatty acids by esterifying these with high molecular monohydric alcohols. The products are hard, wax-like materials. The product obtained by treating deresined montan wax with hydrogen at 300° C. and two hundred fifty atmospheres pressure in the presence of a chromium-copper catalyst is used as the alcohol. This product is heated to 150° C. with stearic acid. This wax-like ester melts at 74° C.

W. Schrauth, in German Patent No. 636,681, October 15, 1936, to the Deutsche Hydrierwerke A.-G., an addition to patent No. 629,244, covers a process for the production of naphthene hydrocarbons and alcohols, wherein esters of naphthenic acids are heated with hydrogen to a temperature of over 250° C., for example, to 280 to 350° C., under a pressure of about fifty atmospheres or more in the presence of a hydrogenation catalyst. Examples are given.

The Rohm and Haas Company, in British Patent No. 457,358, November 26, 1936, propose to obtain alcohols by hydrogenating glycerides in the presence of a catalyst comprising an oxide of a hydrogenating metal, such as an oxide of chromium, manganese, vanadium or molybdenum, and an oxide of an alkali or alkaline earth metal. The reaction is effected at 190 to 400° C. (374 to 752° F.) and at over four hundred pounds per square inch pressure. The preferred catalyst consists of the oxides of copper, chromium and barium, supported, if desired, on activated alumina. Examples describe the hydrogenation of coconut oil, palm oil, Japan wax, cottonseed oil and castor oil, to the corresponding alcohols.

W. Normann, in German Patent No. 639,527, December 7, 1936, to the Bohme Fettchemie G.m.b.H., covers the manufacture of the higher aliphatic alcohols with more than eight carbon atoms in the molecule by reducing the corresponding carboxylic acid esters with hydrogen at temperatures between 300 and 400° C. and in the presence of a finely divided copper catalyst. Thus, the ethyl ester of lauric acid is so reduced to give a 90 per cent yield of lauryl alcohol. Other examples are given. Also see German Patent No. 642,518.

Armour & Co. Patent

British Patent No. 458,391, December 18, 1936, to Armour and Company, states that saturated or unsaturated fatty acids, containing at least six carbon atoms, or their aliphatic esters, are treated with formaldehyde in vapor form. These products can be reduced to the corresponding higher fatty alcohols and sulfonated or sulfated to form wetting agents.

In French Patent No. 809,405, March 3, 1937, the I. G. Farbenindustrie A.-G. proposes to treat crude or purified suint or similar materials with hydrogenating or reducing agents so as to hydrogenate the existing double bonds or completely or partly reduce to —CH_2OH groups the existing carboxylic groups, or to obtain both these results at once. The products obtained may be acylated, for example, converted to acetates, distilled and saponified to separate them into their constituents. They may be sulfonated to obtain substances having capillary activity.

In German Patent No. 642,518, March 10, 1937, to the Bohme Fettchemie G.m.b.H., an addition to Patent No. 639,527, W. Normann states that the higher aliphatic alcohols with more than eight carbon atoms are obtained by treating esters of fatty acids containing more than eight carbon atoms with hydrogen at a high temperature and pressure

in the presence of technical cupric carbonate as catalyst. Thus, cacao butter is heated to 315° C. at a hundred and forty atmospheres with hydrogen in an autoclave, in the presence of cupric carbonate, to give a product with an acid number of 0, an ester number of 4.3 and a hydroxy number of 256.8. The product is free from aldehydes.

British Patent No. 479,642, March 12, 1937, to the Bohme Fettchemie G.m.b.H., covers the production of certain higher unsaturated alcohols. It states that catalysts of cupric oxide containing 20 to 60 per cent of cadmium and supported on a carrier such as kieselguhr, pumice, etc., are reduced by hydrogen at 100 to 200° C. and less than thirty atmospheres pressure in the presence of higher aliphatic unsaturated acids, containing not less than eight carbon atoms, so that the water formed is removed, and reduction to the corresponding alcohol is effected by the raising temperature and pressure to not less than 280° C. at two hundred atmospheres pressure. The use of a steel autoclave plated with copper and cadmium is claimed and examples describe the reduction of oleic acid with copper and cadmium on kieselguhr, animal and wood charcoal.

Green's Patent

S. J. Green, in United States Patent No. 2,080,419, May 18, 1937, proposes the manufacture of the higher fatty alcohols from fatty acids and esters by suspending a nonferrous hydrating catalyst, such as barium-copper chromite, in the material to be reduced, for example, in spermaceti for the production of cetyl alcohol. The suspension is maintained at a temperature of about 260° C. under a pressure of twenty to a hundred and fifty atmospheres and a stream of hydrogen is rapidly passed through it in sufficient amount to remove from the reaction zone the higher fatty alcohols produced before the latter are further reduced. An arrangement of apparatus is described. See Canadian Patent No. 371,129.

In German Patent No. 648,510, August 3, 1937, to the Bohme Fettchemie G.m.b.H., W. Normann proposes to prepare the higher aliphatic alcohols by the catalytic reduction of free fatty acids containing more than eight carbon atoms, by hydrogen at raised temperature and pressure, cupric carbonate being used as the catalyst.

United States Patent No. 2,091,800, August 31, 1937, to H. Adkins, K. Folkers and R. Connor, assigned to the Rohm and Haas Company, covers a hydrogenation process for the production of alcohols from esters. The esters, such as ethyl valerate, ethyl trimethyl acetate, methyl caproate, butyl caproate, ethyl α-phenyl succinate, ethyl caprylate, ethyl laurate, ethyl myristate, ethyl phenylacetate, ethyl cinnamate, ethyl α-phenyl butyrate, ethyl α-phenyl propionate, ethyl hexahydro-benzoate, ethyl lactate, the diethyl ester of ethyl malonic acid, spermaceti, diethyl succinate, dibutyl glutarate, diethyl sebacate, ethyl-β-hydroxy butyrate, ethyl 2, 2-dimethyl-3-hydroxybutyrate, valerolactone, lauryl caproate, butyl stearate, cyclohexyl caproate, or ethyl caproate are hydrogenated at elevated temperatures and pressures in the presence of a cataylst containing essentially the oxides of copper, chromium, and one of the group of barium, calcium and magnesium.

W. A. Lazier, in United States Patent No. 2,094,127, September 28, 1937, assigned to E. I. du Pont de Nemours and Company, says that a mixture of higher alcohols are obtained by the catalytic hydrogenation of cottonseed oil at a temperature of about 300 to 400° C. under a pressure of about one hundred atmospheres or more. Other oils can be treated in a similar manner.

According to United States Patent No. 2,094,611, October 5, 1937, to W. A. Lazier, assigned to E. I. du Pont de Nemours and Company, the reaction of hydrogen with a hydroxycarboxylic acid, such as ricinoleic acid, its ethyl ester or castor oil, for the production of octadecan-1, 12-diol (melting at 66 to 67° C. and boiling at 180 to 182° C. under 0.5 mm. pressure), etc., is effected in the presence of mildly acting catalysts, such as the chromite of cadmium, copper and zinc, or oxides or chromites of magnesium and manganese, or other chromites or oxides of like action, suitably at temperatures above 200° C. and with pressures above ten atmospheres. Numerous examples with details and modifications of procedure are given for various reactions of this type.

More Unsaturated Alcohols

According to French Patent No. 819,255, October 13, 1937, and British Patent No. 479,642, February 9, 1938, both to the Bohme Fettchemie G.m.b.H., the higher unsaturated aliphatic alcohols are prepared by the catalytic reduction of the corresponding fatty acids, under high pressure and temperature, gradually increasing to a hundred and thirty atmospheres and 280° C. The catalyst may be copper containing 20 to 60 per cent of cadmium, precipitated on a support.

In United States Patent No. 2,093,159, September 14, 1937, assigned to the I. G. Farbenindustrie A.-G., O. Schmidt states that in the hydrogenation of esters of aliphatic carboxylic acids, such as the production of ethyl alcohol from ethyl acetate, octodecyl alcohol from ethyl esters of train-oil acids, ethylene glycol and ethyl alcohol from ethyl glycollate, and like reactions, the initial esters and hydrogen are passed at a temperature of 200 to 400° C. over a hydrogenating catalyst containing cobalt and which may be activated with a vanadium compound. Numerous other catalysts and activators are also mentioned, or described in the examples given.

Canadian Patent No. 371,129, January 11, 1938, to S. J. Green and assigned to Canadian Industries, Ltd., states that fats, fatty oils, waxy esters, their corresponding acids and other esters are converted into alcohols by passing a rapid stream of hydrogen at a pressure of five to fifty atmospheres through a vigorously agitated mix-

ture of the substance to be treated and a suitable catalyst. The alcohols as they are formed are carried out of the reaction vessel in the stream of hydrogen. An apparatus is described.

Hydroaromatic Alcohols

W. A. Lazier, in United States Patent No. 2,105,664, January 18, 1938, assigned to E. I. du Pont de Nemours and Company, covers a process for the catalytic hydrogenation of hydroaromatic carboxylic acids and their esters, for the production of homocyclic hydroaromatic alcohols, such as 2-methylcyclohexylcarbinol, etc. The carbonyl group in the acyl radical of the homocyclic hydroaromatic carboxylic acid or ester of such an acid, such as diethyl hexahydrophthalate, is hydrogenated at a pressure of at least ten atmospheres and at a temperature above 200° C., suitably with a copper-cadmium chromite catatlyst at 385° C. and twenty-nine hundred pounds per square inch pressure. The production of other aromatic alcohols and related products will be considered in a later paper.

Canadian Patent No. 372,121, March 1, 1938, to W. A. Lazier and assigned to Canadian Industries, Ltd., covers the hydrogenation of oxygen-containing organic compounds. The compound is brought in the liquid phase into contact with hydrogen in the presence of a catalyst prepared by heating a multiple chromate of a nitrogen base and copper to its spontaneous decomposition temperature. In one of several examples, a catalyst prepared from cupric nitrate, chromic acid, and ammonia is used to hydrogenate ethyl hydroxystearate to stearyl alcohol and octadecanediol.

United States Patent No. 2,109,844, March 1, 1938, to W. A. Lazier and assigned to E. I. du Pont de Nemours and Company, covers a process for producing alcohols and waxy esters by the catalytic hydrogenation of glycerides of aliphatic carboxylic acids, such as coconut oil. Contact with the hydrogen is effected in the presence of a mild acting alcohol-forming hydrogenation catalyst, such as copper chromite, at a temperature substantially above 200° C. and suitably under a hydrogen pressure of more than thirteen and a half atmospheres.

Another Sandoz Patent

United States Patent No. 2,110,483, March 8, 1938, to A. Guyer and assigned to the Chemische Fabrik vorm. Sandoz, covers a hydrogenation process for the production of high-molecular aliphatic alcohols wherein the esters of aliphatic carboxylic acids containing at least eight carbon atoms in the acid radical, such as the cetyl ester of palmitic acid, cocoanut fat or spermaceti oil, are heated with hydrogen to 250 to 300° C. under a hundred and fifty to three hundred atmospheres pressure, in the presence of a catalyst of chromium or copper oxides containing one per cent of iron, to obtain alcohols, such as cetyl alcohol and other alcohols.

According to United States Patent No. 2,116,552, May 10, 1938, to H. R. Arnold and W. A. Lazier, assigned to E. I. du Pont de Nemours and Company, reactions such as the hydrogenation of ethyl oleate, ethyl esters of linseed oil acids, ethyl laurate, coconut oil, caprylic acid, lauric acid, oleic acid, capric acid, myristic acid, palmitic acid, stearic acid, or their anhydrides, etc., to give the alcohols corresponding to the initial materials, are effected by heating under pressure with hydrogen and a catalyst which may contain iron, cobalt or nickel or their oxides or chromites together with the metals cadmium, indium, tin, mercury, tellurium, lead or bismuth or their chromites. Numerous examples with details are given.

C. E. Andrews and L. W. Covert, in United States Patent No. 2,118,001, May 17, 1938, assigned to the Rohm and Haas Company, cover the hydrogenation of carbonyl compounds, such as the production of alcohols from ketones or fatty acid esters, by catalytic hydrogenation at elevated temperatures and pressures in the presence of copper oxide deposited on activated alumina.

In United States Patent No. 2,118,007, May 17, 1938, assigned to the Rohm and Haas Company, Covert and Andrews cover the hydrogenation of carboxylic acid esters, as in the production of alcohols from fatty oils, at temperatures of about 200 to 400° C. and under pressures of about one hundred to two hundred atmospheres in the presence of a catalyst containing oxides of cobalt and silver.

United States Patent No. 2,121,367, June 21, 1938, to the I. G. Farbenindustrie A.-G., G. Schiller, inventor, covers the production of alcohols by the catalytic hydrogenation of high-molecular non-aromatic carboxylic acids. Acids, such as those formed by oxidizing paraffin, for the production of alcohols are hydrogenated at a sufficiently high temperature, which may be about 220° C., and under a superatmospheric pressure of at least twenty atmospheres, in the presence of nickel, cobalt or copper and of a basically reacting oxide of a di- or tri-valent metal, such as magnesium oxide, in an amount at least molecularly equivalent to the carboxylic acids present.

United States Patent No. 2,121,368, to the same company and inventor, relates to the production of alcohols by hydrogenating materials such as palmitic acid or magnesium palmitate at temperatures above 150° C. and under pressures greater than ten atmospheres, by the use of hydrogen, in the presence of nickel, cobalt or copper.

According to United States Patent No. 2,127,369, August 16, 1938, to W. Normann and G. von Schuckmann, assigned to the H. Th. Bohme A.-G., it is possible to prepare wax-like esters retaining an unsaturated character and suitable for saponification, to produce unsaturated alcohols, by hydrogenating unsaturated acids, such as oleic acid, in the presence of a catalyst, such as a copper-chromium catalyst, the activity of which is regulated by a suitably proportioned addition of a

catalyst poison, such as sulfur, phosphorus, or their compounds, or carbon monoxide.

Naphthenic Acids and Alcohols

The naphthenic acids occur in various crude petroleum oils and can be prepared by the partial oxidation of the corresponding naphthenes. These are really cyclic aliphatic compounds but are closely related to certain aromatic compounds. They are usually considered as members of the aliphatic group, for the reason that the various constituents of the naphthene ring are usually simple aliphatic radicals. The naphthenic acids present in the crude petroleums are removed in the aqueous alkaline treatments, during refining, and can be recovered from these aqueous liquors by acidification. The naphthenic acids can be distinguished from the corresponding open-chain aliphatic acids by the fact that the naphthenic acids form soluble calcium and magnesium salts, a fact which greatly increases their interest to the wetting and detergent industry.

Just as the ordinary fatty acids are reduced to the corresponding alcohols by hydrogenation under certain conditions, so are the naphthenic acids reduced under suitable hydrogenating conditions to the naphthenic alcohols. It appears that at least some of these alcohols may prove very interesting for detergent, as well as other, uses.

A process for the production of naphthenic alcohols from naphthenic acids, by reduction with metallic sodium in butyl alcohol, is covered by United States Patent No. 2,000,994, May 14, 1935, to W. Schrauth and assigned to the "Unichem" Chemikalen Handels A.-G. This will be discussed in a later paper covering the sodium-alcoholic reduction process for the preparation of the higher alcohols.

Canadian Patent No. 354,246, November 19, 1935, to W. A. Lazier and assigned to Canadian Industries, Ltd., previously discussed in this paper, gives an example of the catalytic hydrogenation of naphthenic acid to the corresponding alcohol.

In German Patent No. 636,681, October 15, 1936, to W. Schrauth and assigned to the Deutsche Hydrierwerke A.-G., previously discussed, he states that naphthene hydrocarbons and alcohols can be prepared by heating the esters of naphthenic acid with hydrogen at high temperatures and pressures.

United States Patent No. 2,114,717, April 19, 1938, to W. A. Lazier, assigned to E. I. du Pont de Nemours and Company, covers the preparation of alcohols from naphthenic acid derivatives, such as the esters or acid anhydrides, by subjecting the derivatives to catalytic hydrogenation under a pressure of at least ten atmospheres and at a temperature above 200° C.

J. A. Wunsch, in United States Patent No. 2,120,537, June 14, 1938, covers a process for the production of naphthenyl alcohols by hydrogenating naphthenic acids, wherein the naphthenic acid is reduced to the corresponding alcohol in a hydrogen atmosphere at a temperature of about 200° C. and under a pressure of about a hundred and fifty pounds per square inch, in the presence of a hydrogenation catalyst.

Also see Cyclic Alcohols, in a later paper.

A recent paper by von Pilat and Turkiewicz, Petroleum 34, No. 3, 5-8 (1938), discusses the preparation of naphthenesulfonic acids. It states that the esters of technical naphthenic acid are fractionated and the fractions reduced to alcohols. These are converted into the corresponding chlorides with phosphorus pentachloride and thence, by crystalline sodium sulfite at about 200° C. and a pressure of more than one atmosphere, into naphthenylmethanesulfonic acid. The yield is about eighty per cent. The acids are purified as the sodium, or better, the barium or silver salts. This gives the acids $CH_2R.SO_3H$, in which R is C_9H_{17}, $C_{11}H_{21}$, and $C_{13}H_{25}$. C_7H_{13} is also present but cannot be separated from aliphatic impurities. These are strong acids, soluble in water, and the sodium salts are surface-active and foam-producing.

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Saponified oxidation products of nonaromatic hydrocarbons of high molecular weight are freed from unsaponifiable constituent by introducing such saponaceous mixture containing at least 25 per cent of water into a tubular vaporizing plant at 100 atmospheres pressure within the tube system, the temperature in the tubes being such as to maintain the soap liquid, such as 310-350°C. The pressure may be reduced in stages and a vacuum pump may be arranged beyond the condenser for the steam and unsaponifiables to insure that the pressure falls to atmospheric in the tube system.

Before saponification, the oxidation products may be freed from readily soluble and strongly acid products by water, acids, dilute alkali or organic solvents. The saponification may be effected in the presence of water, alcohols, ketones or hydrocarbon solvents, and the equivalent or more or less of alkali. Before treatment in the vaporizer, the saponified mixture is preferably (1) freed from any unsaponifiable separating as an upper layer, (2) maintained above 220°C. for some time to convert lactones, hydroxyacids, etc. into ordinary fatty acids, and improve the color and odor. This preheat treatment may be in the presence of hydrogenating agents such as hydrogen or zinc dust. I. G. Farbenindustrie A.-G. British Patent No. 487,317.

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A mixture of water-soluble surface-active salts of acid esters of polybasic mineral oxy acids with high-molecular aliphatic alcohols or sulfonic acids of high-molecular organic compounds, is used for making soap-like compounds. In an example, sodium dodecylsulfate is mixed with water and the sodium salt of polyacyrlic acid and kneaded to form a cleanser for the hands. I. G. Farbenindustrie A.-G. German Patent No. 662,911.

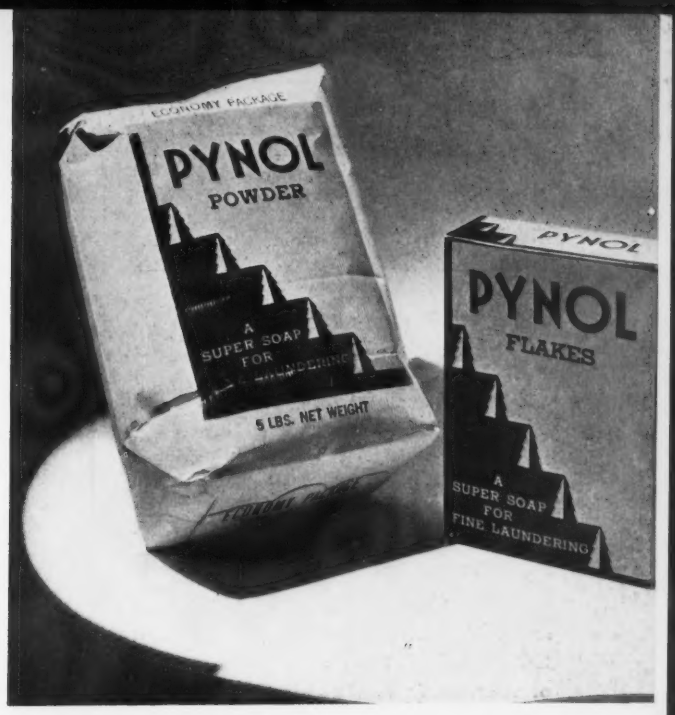
New Products and

One of the prize winners in the 1939 All-America Package Competition is the package of Knomark Mfg. Co., Brooklyn, for its shoe soap. Jar and top cap by Hazel-Atlas Glass Co.

Another All-America prize winner is Canadian Colgate's package for Colgate Beauty Bubbles. The package is a display in itself, exhibiting twelve diamond shaped individual packages in a hexagonal container.

Another winner in the All-America competition is the Lambert redesign for Listerine tooth paste and shaving cream tubes. The designer was Arthur S. Allen of New York City.

Packages



Pynol Co., Burlington, Iowa, has recently added to its line a 5 lb. "economy bag" of Pynol powder. The same package design used on Pynol flakes has been adopted. Bags by Bemis Bros.

Basol, new household cleanser made by Basol Products Corp., Greenville, S. C., is packed in three different sized containers. Colors are blue, orange and yellow. Cans by Continental.

Midland Chemical Laboratories, Dubuque, have just adopted four new lithographed metal containers which will form the nucleus of a line of Midland Sunshine Products. Cans by Owens-Illinois.

News....

To Boost Excise Tax

In a bald attempt to boost at once the excise taxes on coconut, palm, palm kernel and other imported oils and fats from 3c to 5c per pound, Senator Connally of Texas on Feb. 27 introduced such an amendment in the U. S. Senate as a rider to the bill providing for taxation of the salaries of state officials which had already passed the House. This was a political trick to increase the tax rate in 602½ A of the Revenue Law without amending this latter law and to avoid hearings. Other strong pressure is being brought to bear in Washington to increase the current oil and fat processing tax (excise tax) from 3c to 5c per pound, and further action is anticipated at this session of Congress.

Bernhard Completes Trip

Howard F. Bernhard, Pioneer Soap Co., San Francisco, has recently returned to his office following an extended trip through the east, middle west and south.

Lever Opens New Office

Lever Brothers Co., Cambridge, Mass., has recently opened offices in the American Building, Central Parkway and Walnut Street, Cincinnati. The new division manager is C. H. Maudsley of New York.

Wins Jasmin Award

Albin Wilko, perfumer with the Felton Chemical Co., Brooklyn, N. Y., for the past ten years, was the winner of the gold medal in the 1938 "Jasmin Competition" sponsored by the *Soap, Perfumery & Cosmetics* of London. The prize was recently awarded to Mr. Wilko for his "Jasmin Supreme,"—the competition calling for an odor suitable for a handkerchief perfume imitating as faithfully as possible the true jasmin flower odor. The judges were F. V. Wells, F.C.S., Editor of *Soap, Perfumery & Cosmetics*, and W. A. Poucher and Frank H. Sedgwick, well-known English perfume authorities. Mr. Wilko was winner of third prize in the 1937 lily-of-the-valley competition sponsored by the same publication. The winning jasmin is on display at the California Cosmetic Association's Exhibition which opened in Los Angeles on Feb. 25.

Albin Wilko

Wants Soap Agency

A firm in Casablanca, Morocco, is interested in securing an agency for the sale of American soaps. Further details may be had by writing to the U. S. Bureau of Foreign and Domestic Commerce, referring to File No. 551.

Oil Chemists' Change Date

The American Oil Chemists' Society has changed the date of its annual meeting to the 5th and 6th of May rather than the 4th and 5th, at the Jung Hotel, New Orleans. Features of the meeting will be a program of committee reports, a golf tournament on Friday afternoon and a banquet Saturday night.

Soaper To Represent Britain

R. S. Hudson, secretary for overseas trade and head of the well-known British Hudson soap family will leave for New York on April 22 to attend the opening of the World's Fair where he will represent the British Government as well as his own department. Mr. Hudson had recently offered to resign from the British cabinet. Premier Chamberlain, however, refused to accept his resignation and asked him to continue in his official capacity.

Japanese Soap Wrappers

Though Austria has vanished from the map since Hitler took possession of it, a brand of soap is still being "made in Austria" — in Osaka, Japan. Whether the soap so marked is sold in foreign markets is not known for certain, but it would be conceivable that the Japanese soaper, in marking his wrapper in such manner, has no trouble in clearing his product through the customs of various countries.

Oil Trades To Meet

The Oil Trades Association of New York will hold its annual meeting and election of officers at the Waldorf-Astoria roof garden, March 21. Dates have already been set for the association's two "sport days," which will be held at the Pelham Country Club, June 13 and September 19. The annual banquet will take place November 14 at the Waldorf-Astoria.

Booklet on Dermatitis

G. H. Packwood Mfg. Co., St. Louis, has just issued a booklet on "How to Prevent Dermatitis." It describes briefly the several causes and the better preventatives of this skin disease.

All-America Package Awards

Prize winners in the 1938 all-America package competition have recently been announced. Sixty-four winners were chosen from among 23,000 packages and displays, all of which are now on public exhibit in the showrooms of *Modern Packaging Magazine*, New York, sponsors of the contest, until March 15. Among the winners were Lambert Pharmical Co., St. Louis (Listerine Toothpaste & Shaving Cream); Knomark Mfg. Co., Brooklyn (Knomark Duplex White Shoe Soap); Ultra Chemical Works, Inc., Paterson, N. J. (Ultra Gloss No-Rubbing Floor Wax); and Colgate-Palmolive-Peet Co., Ltd., Toronto (Colgate's Beauty Bubbles).

Canadian Soap Output Higher

Canadian soap output increased substantially in 1937, compared with the preceding year, according to figures released by the Dominion Bureau of Statistics. Total production of soaps, washing compounds and cleaning preparations during 1937 amounted to 224,769,286 lbs., valued at $9,835,470. Included in this listing was bar laundry and household soaps — 67,261,305 lbs., valued at $3,631,171; soap chips and flakes — 38,141,620 lbs., worth $3,046,032; toilet soaps—36,830,705 lbs., at $5,080,194, soap powders—33,468,491 lbs., valued at $2,694,820, and cleaning or scouring powders, pastes and cakes—13,604,644 lbs., worth $834,348.

British Soap Prices Lower

Thomas Headley, British associate of Procter & Gamble Co., and Lever Brothers have reduced the prices of their household bar soaps in the British market from 9 to 8c. Lowered price levels and sharper competition are affecting the smaller British soap makers seriously, according to a dispatch received from SOAP's London correspondent. Another growing factor adding to the seriousness of the situation is the Colgate controlled firm E. G. Goodwin & Son, London. Under British ownership Goodwin specialized in toilet soaps, but under Colgate control they are expected to develop the soap flake side of the business.

U. S. Soap Sales Gain in 1938

Sales of soaps during 1938 showed a substantial gain over those for 1937, according to figures just released by the Association of American Soap & Glycerine Producers in its soap census tabulations. Total soap sales for 1938 amount to 2,584,705,271 lbs., valued at $256,477,154, as against 2,418,065,858 lbs., valued at $246,331,576 for the year of 1937. Deliveries aggregated 571,168,487 lbs., valued at $58,959,659 for the last quarter of 1938 as compared with 684,248,236 lbs., worth $67,261,905 in the third quarter, and 489,268,252 lbs., valued at $52,075,868 in the last quarter of 1937.

Fats and Oils Conference

Delegates representing farm and factory producers of more than one-half of all domestic fats and oils recently held a two-day meeting in Washington, D. C., at which a national organization was completed. J. F. Johnson, St. Louis, was elected president, other officers are F. J. Kidd, Birmingham, Ala., first vice-president; Roger E. Morse, Boston, treasurer; F. B. Wise, Washington, D. C., secretary and assistant treasurer and A. M. Loomis, Washington, D. C., Washington representative. The Domestic Fats and Oils Conference has two practical objectives, states President Johnson, to raise prices of oil-bearing raw materials and to increase domestic production.

F.T.C. Cites Autogroom Co.

The Federal Trade Commission has issued a complaint charging three former employees of the company manufacturing "Karsmetic," an automobile cleanser and polisher, with misrepresentation and disparagement of the product they once sold. They are M. W. Devitt, Roy D. Schlegel and Robert E. Sargent, trading as the Autogroom Co., with offices in New York and Washington, D. C. Twenty days are allowed the respondents to answer the complaint.

N.A.D.C. Convention

The National Association of Dry Cleaners recently held their annual convention at Dallas, Texas. A number of supply firms exhibited at the convention, showing a variety of spotting compounds, dry cleaning soaps and other cleaning supplies. Charles E. Rinehart, San Diego, was elected president of the association for the coming year. Other officers elected were O. M. Chapman, St. Louis, vice-president; and Samuel Rubenstein, Washington, D. C., treasurer.

Bims Plan 1939 Program

The General Committee of "Bims" recently met at the Advertising Club, New York. A survey of the previous season's activities was given, a highlight of which was the successful golf tournaments held. Plans for 1939 include more of the same. "Bims" is an organization for the promotion of good fellowship of buyers, importers, manufacturers, and salesmen of soaps and toilet prepartions.

DCAT Holds Retailers' Forum

The Drug, Chemical and Allied Trades Section of the New York Board of Trade held a "Retailers' Forum" on February 21st. Speakers for the occasion were Samuel S. Dworkin, chairman of the trade committee of the New York Pharmaceutical Council, A. R. Granito, past president of the New Jersey State Pharmaceutical Association, Harry H. Miller, chairman of the fair trade committee of the New York State Pharmaceutical Association and Nathan Zonies, president of the Pennsylvania Pharmaceutical Association.

New Marketing Counsellors

T. H. Loritz & Associates, marketing counsellors, started operations February 15th, in Corpus Christi, Texas. Mr. Loritz was formerly in advertising agency work in Chicago and on the West Coast. Associated with him in the new venture are T. H. Putnam, J. Sharpe, Collier Mize and E. Cope.

Runs Prison Soap Plant

Hugh Kelly, formerly with Procter & Gamble Co., at Cincinnati, recently took over the duties as superintendent of the Michigan state reformatory soap factory at Ionia, Mich. Production will be for state institutions only and will include everything in the soap and detergent line.

Honor R. B. Colgate

Russell B. Colgate, chairman of the Board of the Colgate-Palmolive-Peet Co., and a resident of West Orange, N. J. has received the 1938 "outstanding citizen" medal of the Chamber of Commerce and Civics of the Oranges and Maplewood for his philanthropies and civic leadership.

Japanese Soap Output Up

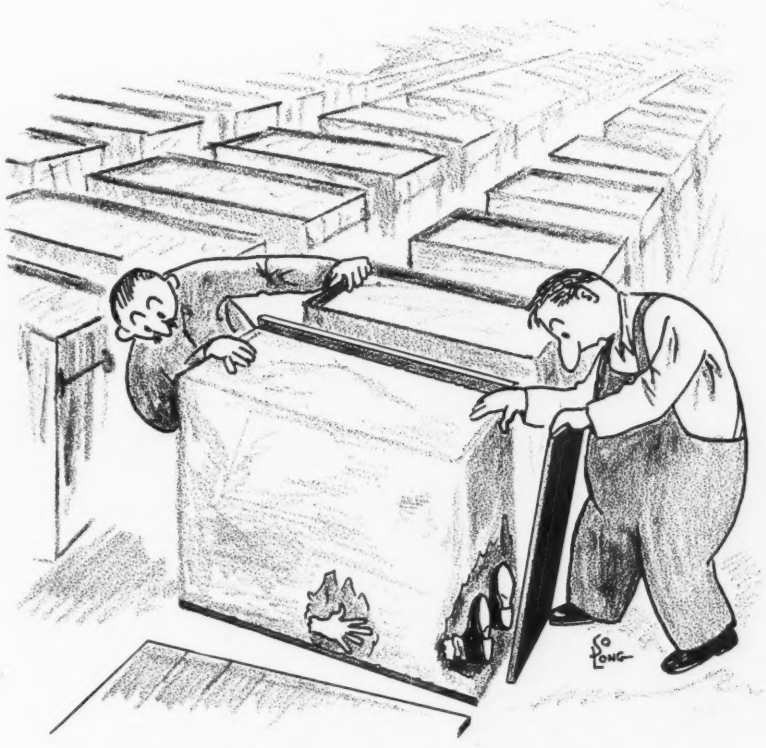
Five years ago statistics showed that Americans used twenty times more soap than the Japanese. At the end of 1937 the proportion was only two to one, says S. Futakami, president of the Japan Oil & Fat Co., one of Japan's larger soap concerns, according to a dispatch received from SOAP's Tokyo correspondent. The Japanese make soap from hardened sardine oil, of which 180,000 tons were produced in 1938.

Gordon-Allen Changes Name

Gordon-Allen, Ltd., soap manufacturing concern, Oakland, Calif., has recently changed its name to Par Soap Co., in a reorganization program which followed the sale of his interest by C. E. Gordon. Theodore E. Allen is president of the new company which produces "Par" granulated soap, "Par" cake soap, "Parma" castile and "Polka Dot" bluing. Other officers are G. M. Schino, vice-president, and William Newton, secretary-treasurer.

Jergens Appoints Hilton

Robert Hilton has been appointed sales supervisor for the Andrew Jergens Co., soap manufacturing concern, of Burbank, Calif.



"My Gosh—I thought Casey was on vacation!"

New Soap for Pynol

Pynol Co., Quincy, Ill., has announced the addition of a new soap to its line of products, which will be known as "Lyla-Rose" toilet soap. A new soap wrapping machine has been installed in the company's plant having an output of 120 bars per minute. A case of the new soap, wrapped on the new machine, was sent to the Mayor of Quincy, Max A. Conrad, in celebration of the two additions.

Dry Cleaning Specification

A new federal specification (P-S-661a) for dry-cleaning solvent has been issued under date of Sept. 23, 1938, to be put into effect not later than April 15, 1939. The new specification supersedes that of Feb. 3, 1931 (P-S-661). Copies may be had at 5c each by writing to the Superintendent of Documents, Washington, D. C.

New Product for Quaker

Quaker Chemical Products Corp., Conshohocken, Pa., has recently developed a new product known as "Quaker Pyr-E-Pel," which is a crystalline, non-inflammable powder to be used for the flameproofing of fabrics. They state that it thoroughly flameproofs, retards fire, possesses no afterglow, imparts body, adds weight and due to its insolubility in solvents is resistant to many dry cleanings.

Anchor Hocking Corp. Moves

The New York City sales offices of Anchor Hocking Glass Corp. and Anchor Cap & Closure Corp., have recently been consolidated in new quarters at 50 West 40th St. A permanent display of Anchor closures and containers will be maintained at the new offices.

Research Associates Close

Research Associates, Inc., manufacturers of soap and specialty products, Washington, D. C., has closed its offices at 3400 Nebraska Avenue, N.W., and has, for the present at least, ceased all activities.

They

ALL LOOK ALIKE ON PAPER;

but . . . real merit is PROVEN by the way consumers order and reorder.

By handling Clifton products exclusively wide-awake jobbers consistently increase their sales and profits. You can do likewise.

Details for the asking on the complete line of soap bases, dispensers, deodorant cakes, disinfectants, waxes, polishes and kindred products. Inquire today from Clifton Chemical Co., 246 Front St., New York.

CLIFTON

Members of BIMS, one hundred strong, met for a beefsteak dinner at the famous Gallagher's Steak House in New York on February 16. Martin F. Schultes, vice-president of the Hewitt Soap Co., chairman of the organization, acted as head man. There were no speeches and no business. In fact, it is one of the rules of the BIMS (Buyers, Importers, Manufacturers, and Salesmen of cosmetics, soaps, drugs, and allied products) that there shall be no business discussed at its meetings,—and the age-old custom of treating at the bar is banned, everything is on a strictly dutch-treat basis.

Drug Club Elects

G. H. Niemeyer of Handy & Harmon, was elected president of the New York Drug and Chemical Club at a meeting of the board of governors February 21. Other new officers are: H. B. Lamy, Jr., Pacific Fire Insurance Co., vice-president; W. D. Barry, Mallinckrodt Chemical Co., treasurer; and W. J. Reynolds, Caroon & Reynolds, secretary. Newly elected members of the board of governors include R. B. Magnus of Magnus, Mabee & Reynard, Inc., and S. B. Penick, Jr., S. B. Penick & Co. The new officers will be installed at the next meeting, March 21, which will be a dinner meeting in honor of the retiring president, E. J. Sisley of Sisley & Co.

Climalene Appoints Three

Climalene Co., Canton, O., has recently appointed J. V. Martin as Western division sales manager at Chicago, M. G. Spahr, Eastern division sales manager at Canton, and R. H. Marriott, sales promotion manager, Canton.

State Wage-Hour Bills

State wage and hour bills which do not exempt outside salesmen and which limit all work to eight hours a day, placing no limit on minimum wages which may be set for any industry, are reported to have been introduced into twenty-two state legislatures. It is reported further that in twenty-two other state legislatures meeting this year there is a strong possibility that similar legislation will be introduced.

Review P. & G. Litigation

A recent issue of *Tide*, weekly news magazine, reviews the connection of Procter & Gamble Co. with a number of important patent and trade mark cases fought through the courts in recent years. The Lamont patent case, the "Chipso"—"Chase-O" controversy, and the "Oxol"—"Oxydol" trade mark litigation are all reviewed and commented on. Reference is also made to the more recent Coltman action against Colgate-Palmolive-Peet Co. and Procter & Gamble based on infringement of the Coltman patent for production of spray soap.

M. B. Zimmer Honored

Michael B. Zimmer, Chicago representative of Fritzsche Bros., Inc., New York, was recently made a member of the firm's Quarter of a Century Club at a luncheon in his honor at the Charles Restaurant. He is the Club's twelfth member and was presented with a Government bond on behalf of the company and a gold wrist watch on behalf of the employees.

New Parento Distributor

Arrangements have been completed, whereby subdivision packages of essential oils, chemicals and balsams of Compagnie Parento, Ltd. of Canada, are being distributed to the Canadian drug trade by Toronto Pharmacal Co., Ltd. throughout Canada except in British Columbia where Barham Drugs, Ltd. continue as sales agents.

Shampoo from Fatty Acids

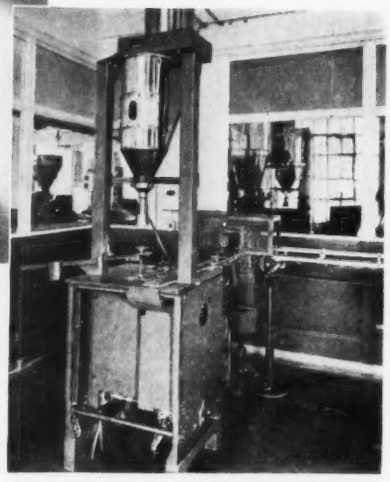
A shampoo may be made from ten parts of coconut oil fatty acids, five parts of castor oil fatty acids or distilled oleic acid, eight parts of 50° Be caustic potash, and 77 parts of distilled water. Addition of alcohol or glycerine in place of part of the water improves the soap. The liquid soap is cooled and filtered in the usual way.

A few of the containers being handled on S & S Equipment by the Norwich Pharmacal Co., Norwich, N. Y.

STOKES & SMITH EQUIPMENT

Wins Again

in the 1938 All-America Packaging Competition



S & S Universal Filling Machine with conveyor and cap pressing device. 15-20 units per minute.

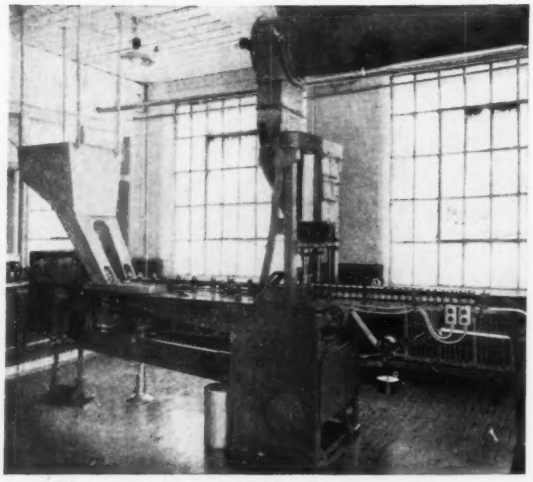
IT is significant that once more S & S Powder Filling Equipment should walk away with honors.

This time it is for an installation in the modern plant of the Norwich Pharmacal Company. The award was made in the Machinery Group in the 1938 All-America Competition sponsored by Modern Packaging.

Even more significant in a work-a-day world, however, is the long, efficient service S & S Equipment is rendering countless manufacturers the country over, year in and year out. Not prize winners these, but heroes in their own right.

Stokes & Smith Company is naturally grateful for this latest tribute. Many alert manufacturers may benefit by having S & S Equipment called to their attention in this pointed manner.

Investigate S & S Automatic and Semi-Automatic Filling, Sealing, Packaging and Wrapping Equipment.



S & S Automatic Duplex Filling Machine with conveyor and cap pressing device. Up to 60 units per minute.

STOKES & SMITH Co

PACKAGING MACHINERY — PAPER BOX MACHINERY

4915 Summerdale Ave., Philadelphia, U. S. A.

New Soap Dispenser

G. H. Packwood Manufacturing Co., St. Louis, has just introduced a new powdered soap dispenser, the "Pax Type M Soap-Economizer." They state that several exclusive new features produce a high operating economy, chief of which is a positive feed control. By the adjustment of one screw the Soap-Economizer may be set to dispense as much or as little soap as desired. It is made of ebony-black plastic polished to a mirror finish, trimmed with red and chromium.

1939 Custom House Guide

The *Custom House Guide* has just issued its 1939 New York World's Fair annual edition. A new feature this year has been the inclusion of the exact wording of each of the nineteen reciprocal trade agreement rates of duty and other changes brought about by executive or legislative action.

BIMS Golf Tournament

BIMS, an organization for the promotion of good fellowship among buyers, importers, manufacturers and salesmen, has announced that its opening golf outing will be held on May 11 at Canoe Brook Country Club, Summit, N. J.

Galvin Back At Work

T. M. Galvin, sales manager of the industrial department of Armour Soap Works, has recently returned to his desk following a month's trip to Florida. Mr. Galvin had gone south to recuperate from a serious operation.

Announce Wolf Award Winners

Lever Bros., Cambridge, Mass., was a blue ribbon winner in the 8th competition for the Irwin D. Wolf Awards for distinctive merit in packaging. Lever's floor display for soaps was judged best in the class of floor display pieces that most effectively contribute to the selling of the unit package. Gaining honorable mention in this same classification was McCormick & Co., Baltimore, with its floor display for insecticides. Another blue ribbon winner was S.

Lowe & Sons, Fairfield, Conn., for the most effective packaging of a combination sales unit, in which was entered its metal container for liquid wax. Receiving honorable mention in other classifications were R. M. Hollingshead Corp., Camden, N. J., for the most effective use of the elements of design to create shelf visibility in retail stores, and Marton Freres, Inc., New York, for the most effective family of packages. All entries in the competition, which was sponsored by the American Management Association, will be on display as a featured exhibit of the 9th Packaging Exposition to be held at the Astor Hotel, New York, March 7-10.

Soap Allergy

Allergic skin reactions or dermatitis due to occupational exposure to soaps, powders and oils are in a large percentage of cases due to alkalies. M. R. Mayers, *Safety Eng.* **76,** No. 5, 9-10, 12 (1938); through Chem. Abs.

P. C. Magnus on Trip

Percy C. Magnus, president of Magnus, Mabee & Reynard, Inc., New York, essential oils and aromatics, recently sailed aboard the S.S. *Washington* bound for California by way of the Panama Canal. He will return to New York by rail, making stopovers in various cities.

Widest Plates of Clad Steel

Lukens Steel Co., Coatesville, Pa., recently produced the widest plates of clad steel ever rolled. Two plates, each measuring 152" long, 151" wide, 3/4" thick and weighing 5,315 pounds, were produced on the company's 206" plate rolling mill. The nickel-cladding on one surface of each plate consisted of 10 per cent of the total plate thickness.

Cottonseed Oil Stocks

Crude cottonseed oil on hand in the United States, January 31, amounted to 178,202,644 lbs., considerably less than the 210,084,271 lbs. on hand at the corresponding date in 1938, according to a recent report issued by the U. S. Bureau of Census. Crude oil shipments for the 1938-1939 season from Aug. 1 to Jan. 31, amounted to 844,160,042 lbs., as against 1,233,550,540 lbs. for the corresponding period in the 1937-1938 season.

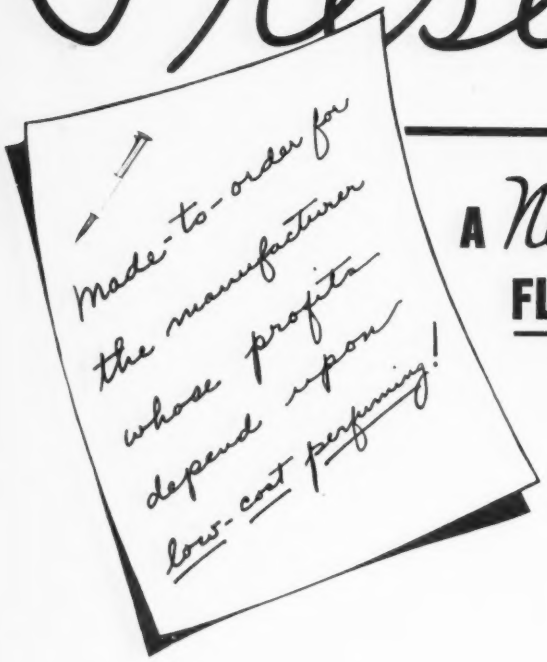
Soap Co. Elects Finehout

E. M. Finehout was recently elected vice-president in charge of advertising and sales for Los Angeles Soap Co., Los Angeles.

Sulfonated Oil

A highly sulfonated oil can be prepared by treatment with a large excess of sulfuric acid at a low temperature, as described in German Patent No. 664,387, issued to the Boehme Fettchemie Gesellschaft. The oil is diluted with an inert solvent. The proportions used are 300 kg. of fatty oil and 100 kg. of benzene to which are slowly added 600 kg. of concentrated sulfuric acid. This is 200 per cent of acid in relation to the amount of oil. The temperature is kept at 0° C. until the reaction is completed. The sulfonated oil formed is then treated with ice and the excess of sulfuric acid removed by washing with a solution of sodium sulfate. The sulfonated oil can be neutralized with a solution of alkali or of ammonia. *Les Matieres Grasses* **30,** 296 (1938).

Presenting



A *New* SERIES OF LOW-PRICED, FLORAL PERFUMES for use in

- INSECTICIDES
- FLY SPRAYS
- BRILLIANTINES
- and HAIR OILS
- POMADES and
- HAIR STAYS

HERETOFORE, low priced perfumes, soluble in mineral or sulphonated oils, light petroleum distillates, petrolatum, animal or vegetable oils and fats, have been available **only** in odor blends of a technical character. For some of the applications to which these solvents are put, such odors are entirely unsuited. As a result there has been a persistent demand for oil-soluble perfumes, low in cost and **floral** in character. This new group of general purpose perfumes is our laboratory's response to that demand. It provides an interesting and much needed selection of floral effects at a cost and of a quality bound to appeal to manufacturers of any of the above-listed products. For free testing samples and details of application, fill in and mail coupon on the page opposite.

USE COUPON OPPOSITE PAGE

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

State Bills Affect Soap

Food, drug and cosmetic bills which have been introduced in many states do not follow the pattern of the federal act in excepting soaps from their provisions. A number of these bills except soaps only with various qualifications, and some do not except soaps at all. Further legislative restrictions for manufacturers of soaps and sanitary chemicals are embodied in the new flood of proposed state laws requiring mandatory registration of trade names, labels, trade marks, etc. Nevada, which was the first state to propose such a law in 1935 again has such a measure on its legislative program this year. A straight five per cent tax on toilet soap is proposed in another bill just introduced in Oklahoma, while a weights-and-measures labeling bill has been introduced in Idaho.

Chicago Soap Assn. Meets

The regular meeting of the Chicago Perfumery, Soap and Extract Association was held February 14 at the Bismarck Hotel. An unusually large number of members were on hand to hear the association's attorney, John S. Hall, discuss the more important and confusing of the regulations for the Food and Drug Act. Mr. Hall also reported on the status of the association's injunction suit against the city of Chicago. The association is attempting to keep the city from licensing cosmetic manufacturers and although several hearings have been held it will probably be some time before the case is settled.

F.T.C. Checks Admiracion

National Oil Products Corp., Harrison, N. J., has just signed a stipulation with the U. S. Federal Trade Commission agreeing to discontinue certain claims made in the sale of its products. "Admiracion" olive oil shampoo and "Admiracion" foamy oil shampoo. The company will no longer state that its products are a competent treatment for excessive scalp dryness and will double the life of waves and curls.

GET A LOAD OF THIS!

For Better Soaps and Cleaning Compounds

Du Pont

TETRA SODIUM PYRO PHOSPHATE

TRI SODIUM PHOSPHATE • SODIUM SILICATE

SODIUM META SILICATE • CAUSTIC SODA

DU PONT Chemicals are recognized as top quality, manufactured to rigid specifications and are therefore constantly uniform.

Du Pont "Pyro" is readily soluble, odorless, aids detergency and cleansing, improves emulsification, sudsing and rinsing. It is available in granular and powdered form, packed in 400 pound barrels.

Du Pont "T. S. P." is odorless, germicidal in solution and readily soluble. It is available in five forms — fine, medium, coarse, globular and flake — packed in barrels, kegs and bags.

Specify Du Pont on your next order for chemicals.

DU PONT
REG. U. S. PAT. OFF.

E. I. DU PONT DE NEMOURS & COMPANY, INC.
GRASSELLI CHEMICALS DEPARTMENT
WILMINGTON • DELAWARE

Contracts Awarded

Marine Corps Detergent

A. C. Fergusson Co., Philadelphia, bid low on 5,200 lbs. of detergent, f.o.b. Philadelphia, at 3.19c, in a recent opening by the Washington, D. C. Marine Corps. They were also low on 6,175 lbs. of detergent, f.o.b. Quantico, at 3.58c. At the same opening, Washington Sales Co., Washington, submitted the low bid of 3.64c on 975 lbs. of detergent, f.o.b. Parris Island.

Laundry Soap Bid

Iowa Soap Co., Burlington, Iowa, bid low on 100,000 lbs. laundry soap at 6.18c in a recent Treasury Procurement Supply opening at Washington. On 26,016 pkgs. laundry soap, they were also low with a bid of 2.67c.

Insecticide Bids

In a recent opening by the Treasury Procurement Supply at Washington, D. C., Noxon Chemical Co., Newark, N. J., bid low on insecticide in the following containers: 1-gal. cans, at 51.75c; 5-gal. do. at 45c; 30-gal. drums, at 44c; and 55-gal. drums, at 43.

Grit Soap Bid

Conray Products Co., New York, submitted the low bid of 3.69c on 4,900 lbs. grit soap in a recent opening of the Treasury Procurement Supply at Washington.

Jeffersonville Soap Bids

Colgate - Palmolive - Peet Co., Jersey City, bid low on 385,000 lbs. laundry soap at 3.2c in a recent opening by the U. S. Army Quartermaster at Jeffersonville, Ind. On 21,100 cakes grit soap, Hunnewell Soap Co., Cincinnati, bid low at 2c per cake.

Brooklyn Soap Bid

Kirkman & Sons, Brooklyn, bid low on 500,000 lbs. laundry soap at 3.29c in a recent opening by the U. S. Army Quartermaster at Brooklyn.

Cleaning Compound Bid

S. W. Stinemetz bid low on cleaning compound at $630 at a recent opening of the Interior Dept., National Park Service, at Washington, D. C.

Metal Polish Bid

R. M. Hollingshead Corp., Camden, N. J., bid low on 100,000 pts. liquid metal polish at 6.6 cents in a recent opening by the Navy Department at Washington, D. C. At the same opening the low bid of 2.69 cents on 50,000 lbs. trisodium phosphate was submitted by Conray Products Co., New York.

Washington Soap Bids

Iowa Soap Co., Burlington, Iowa, bid low on 5,800 lbs. soap at 8.5 cents in a recent opening by the Treasury Dept. in Washington, D. C. In the same opening, Armour & Co., Chicago, was low on 2,450 lbs. soap at 8.66 cents.

Philadephia Wax Bid

Crystal Soap & Chemical Co., Philadelphia, was low with a bid of 9.5 cents on 10,500 lbs. floor wax in a recent opening by the U. S. Marine Corps at Philadelphia.

Laundry Soap Bid

J. Eavenson & Sons, New York, and Sterling Supply Corp., Philadelphia, both bid low on 80,100 lbs. laundry soap in a recent opening by the Treasury Dept. at Washington, D. C.

Navy Dept. Soap Bids

At a recent opening by the Navy Department at Washington, D. C., the following low bids were made: Eastern yards—75,000 lbs. soap at $2.310 by Kranich Soap Co., Brooklyn; 37,600 lbs. grit soap at $1,353.60 by Day & Frick, Philadelphia; 35,000 lbs. laundry soap at $1,321.50 by Kirkman & Son, Brooklyn; 4,260 gals. liquid soap at $1,040.98 by James Good, Philadelphia, and 23,500 lbs. toilet soap at $1,626.25 by Procter & Gamble Distributing Co., Cincinnati.

Bid on Cresol

Crystal Soap & Chemical Co., Philadelphia, bid low on 400 gals. cresol at 78.4 cents in a recent opening by the Treasury Dept. at Washington, D. C.

Chicago Assn. Hears Fehring

Dutch Fehring, assistant coach at Purdue University, was the guest speaker at the February 23 meeting of the Chicago Drug and Chemical Association, held in the Merchants and Manufacturers Club in the Merchandise Mart. In addition to telling of some of his experiences as a Big Ten player and coach, Mr. Fehring showed movies of the 1938 Purdue-Indiana football game.

J. & J. Retailer Plan

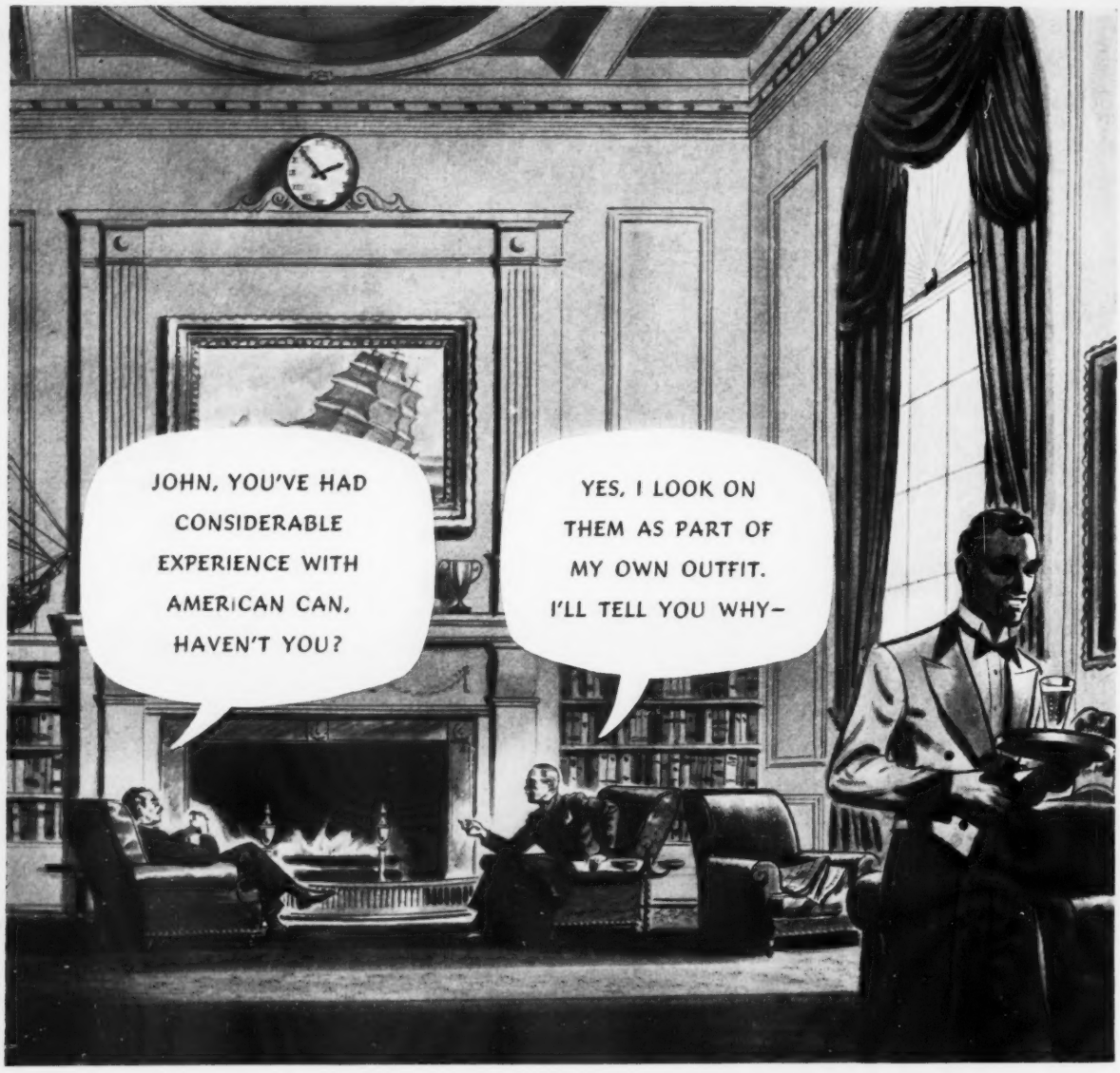
Johnson & Johnson's Baby Products Division, New Brunswick, N. J., is offering to its retailers an extra-profit deal on its merchandise of Johnson's Baby Soap. One package of the soap is given free with every dozen purchased wholesale by the retailer. The company is also offering to its retailers store display material to help boost sales.

Morrison To Owens-Illinois

Charles C. Morrison, well-known artist and industrial designer, has recently joined the staff of the Owens-Illinois Can Co., for whom he will act as consultant and package development contact man, with headquarters in New York. He was formerly associated with the Continental Can Co., Chicago.

Home Products Earnings

American Home Products, Jersey City, reported, for 1938, a net income of $3,025,505, or $3.75 a capital share; for 1937 net income was $2,875,399, or $3.88 a share.



"When I have a problem—whether it's manufacturing or marketing—they make it their problem. Their resources are mine, until I've licked the thing. And many's the time they've come through with new developments and ideas which have helped keep me out in front. You ought to find out what American Can can do for you!"

CANCO AMERICAN CAN COMPANY, 230 PARK AVENUE, NEW YORK, N. Y.

New Trade Marks

The following trade-marks were published in the February issue of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks Filed

S-V—This in letters in relief, describing soaps. Filed by Sandy Valley Grocery Co., Ashland, Ky., Nov. 4, 1937. Claims use since May 13, 1935.

ROCKWELL'S K-9 — This in solid letters, above shield containing heads of two dogs, describing cleaning preparation for animals. Filed by Rockwell Laboratory, Kansas City, Oct. 3, 1938. Claims use since Sept. 26, 1938.

VANISHAL—This in solid letters, mounted upon an outline letter V, describing rug cleaner. Filed by The Vanishal Co., Spokane, Wash., Oct. 27, 1938. Claims use since Oct. 6, 1938.

SAHIB—This in solid letters written vertically above small outlined elephant, describing soaps. Filed by Lightfoot Schultz Co., New York, Oct. 29, 1938. Claims use since Sept. 20, 1938.

DU-L-IZE—This in solid letters describing cleaning preparation. Filed by Carl R. Van Zile, Warsaw, Ill., Nov. 25, 1938. Claims use since Aug. 18, 1937.

NAK—This in solid letters describing cleaning preparation. Filed by Gulden Co., Jersey City, Dec. 15, 1938. Claims use since March 29, 1938.

GOLDEX—This in outline letters describing liquid wax polish. Filed by Goldsmith Bros., New York, May 25, 1938. Claims use since May 24, 1938.

HALE—This in solid letters describing polish. Filed by Tuners Supply Co., Somerville, Mass., Nov. 12, 1938. Claims use since 1885.

DEWAXIT—This in solid letters describing cleanser. Filed by Neilson Chemical Co., Detroit, Nov. 11, 1936. Claims use since May 1935.

SIC-EM—This in script letters describing cleaner. Filed by The Sic-Em Mfg. Co., Norwalk, Conn., Oct. 26, 1938. Claims use since March 1934.

HOM-PROTECTOR — This in solid letters beneath a picture showing a hand raised as though to stop a roach from entering a house, describing roach paste. Filed by Hom-Protector Co., Savannah, Ga., Sept. 15, 1938. Claims use since July 5, 1935.

NOX-MOLD SPRAY — This in solid letters describing compound for moths, mold and the like. Filed by Caperton Chemical Co., Daytona Beach, Fla., Dec. 3, 1938. Claims use since Nov. 3, 1938.

SUPER MARKET—This in outline letters in relief, describing insecticides. Filed by Baldwin Laboratories Inc., Saegertown, Pa., Dec. 22, 1938. Claims use since Sept. 1, 1938.

DAN-DEE—This in solid letters describing paste for waxes and floor polishes. Filed by Twin City Shellac Co., Inc., Brooklyn, June 14, 1937. Claims use since Feb. 4, 1930.

QUIK-TRIK—This in solid letters describing cleaning preparation. Filed by Bravo Products Co., Ann Arbor, Mich., May 21, 1938. Claims use since Jan. 2, 1938.

PARALLENZE — This in solid letters describing glass cleaner. Filed by Paragon Oil Co., Brooklyn, Nov. 14, 1938. Claims use since No. 1, 1938.

ANODEX — This in stenciled letters describing cleansing preparations. Filed by McDermid, Inc., Waterbury, Conn., Nov. 23, 1938. Claims use since Sept., 1938.

TRICO GLASS CLEANER—This in solid letters one word above the other, all inside of shaded circle, describing glass cleaner. Filed by Trico Products Corp., Buffalo, Dec. 2, 1938. Claims use since Nov. 15, 1938.

FOM — This in solid letters with wavy line above and below, describing cleanser. Filed by Fitzpatrick Bros., Chicago, Dec. 1, 1938. Claims use since Sept., 1938.

POMA CLEANER—This in solid letters describing cleaners. Filed by J. B. Ford Co., Wyandotte, Mich., Dec. 7, 1938. Claims use since 1935.

ROX-O-LENE — This in solid letters describing cleaning compound. Filed by Roxborough Cleanser Co., Philadelphia, Dec. 16, 1938. Claims use since Nov. 23, 1938.

HARDEX—This in stenciled letters describing water softener. Filed by Research Products Corp., Madison, Wis., Jan. 11, 1939. Claims use since Dec. 31, 1938.

WAXIT—This in outline letters describing polishing cream. Filed by The Pyramid Co., St. Paul, Sept. 11, 1937. Claims use since 1914.

Trade Marks Granted

363,537. Dentifrice. D. & P. Products, Inc., New York. Filed March 3, 1937. Serial No. 389,615. Published June 8, 1937. Class 6.

363,540. Disinfectant and Germicidal Preparation. Toc's Products Co., Syracuse. Filed April 14, 1937. Serial No. 391,359. Published Nov. 23, 1937. Class 6.

363,569. Cleaning and Washing Powder Compound. James B. Borland, Bloomington, Ind. Filed March 10, 1938. Serial No. 403,904. Published June 21, 1938. Class 4.

363,559. Textile Soaps. Michel Export Co., New York. Filed Jan. 20, 1938. Serial No. 402,134. Published Oct. 25, 1938. Class 4.

363,654. Cleaner and Disinfectant. Master Chemical Co., Portland, Oreg. Filed July 27, 1938. Serial No. 408,961. Published Oct. 11, 1938. Class 6.

363,659. Insecticide. Midwest Oil Co., Minneapolis. Filed July 29, 1938. Serial No. 409,023. Published Oct. 18, 1938. Class 6.

REGARDLESS of what your container requirements may be for your drug, pharmaceutical and chemical products . . . whether for a midget one ounce or a giant 160 ounce bottle . . . whether for amber or crystal . . . Anchor Hocking can supply you with a size and style perfectly suited to the job. This is equally true of Anchor Hocking's various P & P lines as well as the Wide Mouth Rounds shown above. And, of course, all these glass containers are made under Anchor Hocking rigid standards of quality, which is evident in the care used in the selection of materials, in manufacture and in inspection. ANCHOR HOCKING GLASS CORPORATION, Lancaster, Ohio.

ANCHOR HOCKING GLASS CAPS
-an unbeatable combination

363,679. Cleaning Compound. Apex Chemical Manufacturing Corp., Detroit. Filed Aug. 5, 1938. Serial No. 409,253. Published Oct. 25, 1938. Class 4.

363,723. Soap. Central Tea Co., Detroit. Filed Aug. 25, 1938. Serial No. 409,956. Published Oct. 25, 1938. Class 4.

363,686. Shampoo. Turmac Specialties Co., Berkeley, Calif. Filed Aug. 8, 1938. Serial No. 409,372. Published Oct. 25, 1938. Class 6.

363,726. Insecticides and Germicides. California Spray-Chemical Corp., Richmond, Calif. Filed Aug. 26, 1938. Serial No. 409,990. Published Oct. 25, 1938. Class 6.

363,769. Soap Flakes. John Hanser Soap Co., Milwaukee. Filed June 30, 1934. Serial No. 353,396. Published Aug. 24, 1937. Class 4.

363,794. Wax, Paste and Liquid Polish. Chrysler Corp., Highland Park, Mich. Filed Feb. 12, 1938. Serial No. 402,965. Published Nov. 1, 1938. Class 16.

363,804. Self-polishing Liquid Floor Wax. Paste Floor Wax. The Violize Co., Chadron, Nebr. Filed April 13, 1938. Serial No. 405,217. Published Nov. 1, 1938. Class 16.

363,865. Cleansing Preparations for Dogs. John Morrell & Co., Ottumwa, Iowa. Filed Aug. 11, 1938. Serial No. 409,482. Published Nov. 1, 1938. Class 4.

363,880. Toilet Soap. Haskins Brothers & Co., Sioux City, Iowa. Filed Aug. 20, 1938. Serial No. 409,810. Published Nov. 1, 1938. Class 4.

363,878. Shaving Preparations. Brunswig Drug Co., Los Angeles. Filed Aug. 20, 1938. Serial No. 409,802. Published Nov. 1, 1938. Class 4.

363,879. Wax-Polishing Preparation. Ox-I-Stop Products Co., Atlanta. Filed Aug. 20, 1938. Serial No. 409,803. Published Nov. 1, 1938. Class 16.

363,881. Cleanser in Liquid Form. J. B. Rosefield, An-Fo Manufacturing Co., Oakland, Calif. Filed Aug. 22, 1938. Serial No. 409,831. Published Nov. 1, 1938. Class 4.

363,908. Soft Soap. Tri-Lutz Chemical Co., Wheeling, W. Va. Filed Sept. 9, 1938. Serial No. 410,414. Published Nov. 1, 1938. Class 4.

363,909. Metal Polish. Sillcrest Chemical Co., Houston. Filed Sept. 10, 1938. Serial No. 410,440. Published Nov. 1, 1938. Class 4.

363,995. Polishes. White Fox Co., New York. Filed April 11, 1938. Serial No. 405,146. Published Nov. 8, 1938. Class 4.

364,007. Cleaner. Filed June 11, 1938. Serial No. 407,360. Published Nov. 8, 1938. Class 4.

364,011. Floor Wax. Woodburn Spencer & Co., New Orleans. Filed June 14, 1938. Serial No. 407,474. Published Nov. 8, 1938. Class 16.

364,052. Cleaning Preparation. Pynosol Laboratories, Inc., Chicago. Filed Aug. 6, 1938. Serial No. 409,330. Published Nov. 8, 1938. Class 4.

364,072. Cleaning and Polishing Preparation. Metal Wonder Co., New York. Filed Aug. 26, 1938. Serial No. 409,988. Published Nov. 8, 1938. Class 4.

364,103. Soap Flakes. The Globe Soap Company, Cincinnati. Filed Sept. 13, 1938. Serial No. 410,572. Published Nov. 8, 1938. Class 4.

364,225. Polish. McAleer Manufacturing Co., Detroit. Filed July 5, 1938. Serial No. 408,195. Published Nov. 15, 1938. Class 16.

364,308. Toilet Soaps. Manhattan Soap Co., New York. Filed Sept. 23, 1938. Serial No. 410,916. Published Nov. 15, 1938. Class 4.

364,313. Rug and Upholstery Cleaner. Utility Products Co., Buffalo. Filed Sept. 26, 1938. Serial No. 410,994. Published Nov. 15, 1938. Class 4.

364,318. Soap. Sarong of Philadelphia, Philadelphia. Filed Sept. 27, 1938. Serial No. 411,034. Published Nov. 15, 1938. Class 4.

364,366. Polishing Wax. Hi-Glo Products, New York. Filed March 31, 1938. Serial No. 404,712. Published November 22, 1938. Class 16.

364,367. Auto Polish. Varsity Products Co., Philadelphia. Filed April 4, 1938. Serial No. 404,866. Published November 22, 1938. Class 16.

364,368. Shampoo. Duchess Co., Pittsburgh. Filed April 12, 1938. Serial No. 405,167. Published November 8, 1938. Class 6.

364,374. Cleansing Pads. Campana Corp., Batavia, Ill. Filed May 31, 1938. Serial No. 406,914. Published November 15, 1938. Class 6.

364,383. Germicide. Powell's Pharmaceutical Laboratories, Brooklyn. Filed July 8, 1938. Serial No. 408,324. Published November 1, 1938. Class 6.

364,386. Insecticides and Germicides. California Spray-Chemical Corp., Wilmington, Del. Filed July 16, 1938. Serial No. 408,561. Published November 8, 1938. Class 6.

364,437. Insect Powder. John Powell & Co., New York. Filed August 27, 1938. Serial No. 410,047. Published November 1, 1938. Class 6.

364,515. Soap. Hecker Products Corp., New York. Filed May 27, 1937. Serial No. 393,333. Published October 26, 1937. Class 4.

364,515. Cleanser. B. T. Babbitt, Inc., New York. Filed May 28, 1937. Serial No. 393,363. Published November 29, 1938. Class 4.

364,523. Dog Shampoo. Zenith Products Co., Wellsville, Ohio. Filed December 4, 1937. Serial No. 400,481. Published January 25, 1938.

364,529. Cleansing and Washing Compounds. Monsanto Chemical Co., St. Louis. Filed March 19, 1938. Serial No. 404,256. Published November 22, 1938. Class 4.

364,537. Soaps. J. R. Watkins Co., Winona, Minn. Filed May 21, 1938. Serial No. 406,615. Published November 22, 1938. Class 4.

364,572. Bottle Washing Compound. Pennsylvania Salt Manufacturing Co., Philadelphia. Filed September 12, 1938. Serial No. 410,476. Published November 22, 1938.

364,573. Washing Powder. Pennsylvania Salt Manufacturing Co., Philadelphia. Filed September 12, 1938. Serial No. 410,477. Published November 22, 1938. Class 4.

Raw Material Markets

(As of February 27, 1939)

NEW YORK — The soap and sanitary chemical raw material market retained its steady and quiet tone for the period just ended. There were few changes of any significance, the majority of them exhibiting a slow downward trend. In the chemical market imported cresylic acid, liquid chlorine and imported crude naphthalene were the only changes of note, all showing a slight reduction. The oils and fats market continued its lowering of quotations, reductions occurring in the copra, coconut oil, olive oil, corn oil and tallow markets. Perfuming materials kept pace with the other raw materials in their easier tones, as did insecticide raw materials.

CHEMICALS

Cresylic Acid

Shipments of cresylic acid were reported satisfactory during February, especially material going to the resin industry. Although domestic quotations showed no alteration, imported material was slightly easier and showed a 2-cent per gallon drop this month, bringing the present price range to 60 to 64 cents per gallon.

Chlorine

Liquid chlorine producers this period announced a reduction of 25 cents per 100 lbs. in tank prices. This drop, the second in the past two months, brought quotations to the lowest level since 1933. The change was due to severe competitive conditions and was reported to be an attempt to stabilize the market.

Naphthalene

The market for imported crude naphthalene held an easier tone this past period with a reduction in the price range of 10 cents per 100 lbs. The present schedule is now at a level of $1.50 per 100 lbs. December imports totaled 2,752,771 lbs. valued at $39,319.

OILS AND FATS

Reasons for the declining trend in prices of fats and oils are clearly indicated by a recent bulletin issued by the U. S. Department of Agriculture. Estimates indicate that domestic production of fats and oils during 1938 was the largest since 1929. Domestic production totaled more than eight and one-half billion pounds. With this increase in production stocks have advanced sharply, as consumption has not been able to keep pace with increasing supplies.

Copra

A slight reduction was reported in the copra market this period. The volume of business has been small and crushers are only taking on supplies for replacements against oil sales. The present quotations on the coast range from .0167 to .0170 cent per lb.

Coconut Oil

Demand for crude oil has been slow with the market having an easier tone, quotations being shaded slightly. The range is now .03 cents per lb. for Manila in New York and .02$\frac{5}{8}$ to .02$\frac{3}{4}$ cents for tank futures on the Pacific Coast.

Olive Oil

The olive oil market showed an easier tone this period, prices being reduced 4 cents per gal. on denatured oil and one-eighth cent per lb. on foots. The inquiry for foots showed some increase, but purchases were reported limited to small lots.

Corn Oil

Crude corn oil quotations were reduced one-quarter cent per pound, but buyers were inclined to wait for more decisive developments in competing products.

Tallow

Tallow prices dropped one-quarter cent per lb. this period, in a quiet market. The local situation was unchanged, with large consumers being inclined to hold off for further developments in other commodities. The markets at outside points were also reported quiet.

PERFUMING MATERIALS

Anise Oil

Declining buyer interest in the anise oil market brought competition that shaded prices to 67 to 70 cents per lb. Inquiry was light, and sales volume not large, buyers buying close to actual requirements.

Eucalyptus Oil

The trend of the market appears to be in the direction of greater firmness. Consumption of manufactured products that use this oil as a raw material has steadily risen during the Winter period.

Geranium Oil

Algerian oil was reduced this period from a range of $2.85 to $3.50 per lb. to one of $2.70 to $3.50 per lb. Certain quarters, it was suggested, would accept business as low as $2.65 per lb. Bourbon oil remained about steady, but was still priced very cheap.

INSECTICIDE RAW MATERIALS

Insect Powder

With the large consuming season coming on, prices on insect powder were advanced sharply. Although there has been no basic change in the primary market the Japanese still have a large carry-over, they have anticipated the new season with a rise in shipment quotations.

Derris and Cube

Derris and cube are currently being marketed at price levels considerably lower than those which prevailed during the major part of last year. Derris prices have dropped farther than comparable cube quotations and on some grades derris is now lower in price than licensed cube.

Raw Material Prices

(As of February 23, 1939)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .05¾	$ .06¼
Acid, Boric, bbls., 99½%	ton	106.00	138.00
Cresylic, drums	gal.	.63	.64
Low boiling grade	gal.	.69	.71
Muriatic, C. P., carboys	lb.	.06½	.08
Oxalic, bbls.	lb.	.10¾	.12
Adeps Lanae, hydrous, bbls.	lb.	.16	.18
Anhydrous, bbls.	lb.	.17½	.19
Alcohol, Ethyl, U.S.P., bbls.	gal.	4.56½	4.61½
Complete Denat., SD 1, drums, ex.	gal.	.31	.33
Alum. Potash lump	lb.	.036	.039
Ammonia Water, 26°, drums	lb.	.02	.02¼
Ammonium Carbonate, tech., bbls	lb.	.08	.12½
Bentonite 1, works	ton	—	16.00
Bentonite 2, works	ton	—	11.00
Bleaching Powder, drums	100 lb.	2.25	3.35
Borax, pd., cryst., bbls., kegs	ton	58.00	74.00
Carbon Tetrachloride, car lots	gal.	.66½	.83
L. C. L.	gal.	.73	1.17
Caustic, see Soda Caustic. Potash Caustic			
China Clay, filler	ton	10.00	25.00
Cresol, U.S.P., drums	lb.	.10	.10½
Creosote Oil	gal.	.13½	.14½
Feldspar (200 to 325 mesh)	ton	14.00	15.00
Formaldehyde, bbls.	lb.	.05¾	.06¼
Fullers Earth	ton	10.00	30.00
Glycerine, C. P., drums	lb.	.12½	.13
Dynamite, drums	lb.	—	Nom.
Saponification, drums	lb.	.08½	.08¾
Soap, lye drums	lb.	.07½	.07¾
Hexalin, drums	lb.	—	.30
Kieselguhr, bags	ton	—	35.00
Lanolin, see Adeps Lanae.			
Lime, live, bbls.	per bbl.	—	2.45
Mercury Bichloride, kegs.	lb.	.99	1.13
Naphthalene, ref. flakes, bbls.	lb.	.05¾	.06
Nitrobenzene (Mirbane) drums	lb.	.08	.09
Paradichlorbenzene, bbls., kegs	lb.	.12½	.15½
Petrolatum, bbls. (as to color)	lb.	.02⅝	.03⅞
Phenol (Carbolic Acid), drums	lb.	.14½	.15½
Pine Oils, bbls.	gal.	.46	.59
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.02⅞	.03½
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, powder	100 lb.	3.00	4.00
Rosins (600 lb. bbls. gross for net)—			
Grade B to H, basis 280 lbs.	bbl.	4.75	6.32½
Grade K to N	bbl.	6.40	6.75
Grade WG to X	bbl.	7.25	7.90
Wood	bbl.	4.00	5.50
Rotten Stone, pwd. bbls.	lb.	.01¾	.02½
Silica	ton	20.00	27.00
Soap, Mottled	lb.	.04⅛	.04½
Olive Castile, bars	lb.	.27½	.30
Olive Castile, powder	lb.	.27	.38
Powdered White, Neutral	lb.	.20	.22
Olive Oil Foot, bars, 68-70%	lb.	.09	.09½
Green, U.S.P.	lb.	.11	.13½
Tallow Chips, 88%	lb.	.07⅝	.07⅞
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.08	1.35
Car lots, in bulk	100 lb.	—	.90
Soda Caustic, cont., wks., solid	100 lb.	—	2.30
Flake	100 lb.	—	2.70
Liquid, tanks, 47-49%	100 lb.	—	1.95
Soda Sal., bbls.	100 lb.	$1.10	$1.30
Sodium Chloride (Salt)	ton	15.00	15.60
Sodium Fluoride, bbls.	lb.	.07½	.08¾
Sodium Hydrosulfite, bbls.	lb.	.16	.17
Sodium Metasilicate, ground	100 lb.	3.15	3.40
Crystalline	100 lb.	2.90	4.20
Sodium Pyrophosphate	100 lb.	5.10	5.55
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks.	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.21	.28
Triethanolamine	lb.	.20	.22
Trisodium Phosphate, bags, bbls.	lb.	.02	.03
Zinc Oxide, lead free	lb.	.06½	.07¾

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.06	Nom.
Castor, No. 1, bbls.	lb.	.09¾	.10½
No. 3, bbls.	lb.	.09¼	.10
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	.03	—
Tanks, Pacific Coast, futures	lb.	.02⅝	.02¾
Copra, bulk, coast	lb.	.0167	.0170
Corn, tanks, mills	lb.	.05⅞	.06
Cottonseed, crude, tanks, mill	lb.	.05¾	.05⅞
PSY, futures	lb.	.07	.07¼
Fatty Acids,			
Corn Oil, tanks	lb.	.08½	.09¼
Coconut Oil, tanks	lb.	.08¼	.09
Cotton Oil, tanks	lb.	.07¼	.07½
Settled soap stock	lb.	.03	.03⅛
Boiled soap stock, 65%	lb.	.04	.04⅛
Foots, 50%	lb.	.01⅜	.01½
Linseed Oil	lb.	.08	.09
Red Oil, bbls., dist. or sapon.	lb.	.07⅜	.08⅛
Tanks	lb.	.06½	.07½
Stearic Acid,			
Double pressed	lb.	.10½	.11½
Triple pressed	lb.	.13¼	.14¼
Greases, choice white bbls.	lb.	.05½	.05¾
Yellow	lb.	.04½	.04⅞
Lard, city	lb.	.07¼	.07½
Linseed, raw, bbls.	lb.	.0850	.0870
Tanks, raw	lb.	.0790	.0810
Boiled, 5 bbl. lots	lb.	.0930	.0950
Olive, denatured, bbls., N. Y.	gal.	.88	.90
Foots, bbls., N. Y.	lb.	.07	.07⅛
Palm, shipment	lb.	.03	—
Palm Kernel, shipment	lb.	.0340	Nom.
Sesame Oil, dms.	lb.	.10½	Nom.
Soya Bean, domestic tanks, crude	lb.	—	.05½
Stearine, oleo, bbls.	lb.	.06¼	.06¾
Tallow, special, f.o.b. plant	lb.	.05	—
City, ex. loose, f.o.b. plant	lb.	.05⅛	—
Teaseed Oil, crude	lb.	.09	Nom.
Whale, refined	lb.	.0770	.0830

(As of February 23, 1939)

Essential Oils

Almond, Bitter, U.S.P.	lb.	$2.25	$2.30
Bitter, F. F. P. A.	lb.	2.40	2.45
Sweet, cans	lb.	.60	.62
Anise, cans, U.S.P.	lb.	.67	.70
Bay tins	lb.	1.20	1.25
Bergamot, coppers	lb.	3.65	3.85
Artificial	lb.	1.25	1.30
Birch Tar, rect. tins	lb.	.60	.65
Crude, tins	lb.	.16	.17
Bois de Rose, Brazilian	lb.	1.55	1.60
Cayenne	lb.	1.50	1.75
Cade, cans	lb.	.42	.45
Cajeput, native, tins	lb.	.42	.45
Calamus, tins	lb.	3.60	4.25
Camphor, Sassy, drums	lb.	.27	Nom.
White, drums	lb.	.27	Nom.
Cananga, native, tins	lb.	1.25	1.30
Rectified, tins	lb.	1.80	1.85
Caraway Seed	lb.	1.80	1.85
Cassia, Redistilled, U.S.P.	lb.	.95	1.00
Cedar Leaf, tins	lb.	.63	.68
Cedar Wood, light, drums	lb.	.28	.30
Citronella, Java, drums	lb.	.27	.28
Citronella, Ceylon, drums	lb.	.32	.33
Clove, U.S.P., tins	lb.	.98	—
Eucalyptus, Austl., U.S.P., cans	lb.	.34	.35
Fennel, U.S.P., tins	lb.	1.10	1.15
Geranium, African, cans	lb.	2.70	3.50
Bourbon, tins	lb.	2.35	2.85
Turkish	lb.	1.90	2.00
Hemlock, tins	lb.	.60	.65
Lavender, U.S.P., cans	lb.	2.00	4.75
Spike, Spanish, cans	lb.	1.05	1.10
Lemon, Ital., U.S.P.	lb.	3.10	4.00
Cal.	lb.	2.50	—
Lemongrass, native, cans	lb.	.31½	.32
Linaloe, Mex., cases	lb.	1.25	1.30
Nutmeg, U.S.P., tins	lb.	1.20	1.25
Orange, Sweet, W. Ind., tins	lb.	1.75	1.85
Italian cop	lb.	2.25	3.25
Distilled	lb.	—	.50
California	lb.	—	.75
Origanum, cans, tech	lb.	.90	1.60
Patchouli	lb.	3.75	6.50
Pennyroyal, dom.	lb.	2.10	2.15
Imported	lb.	1.90	2.00
Peppermint, nat., cans	lb.	2.15	2.45
Redis., U.S.P., cans	lb.	2.55	2.80
Petitgrain, S. A., tins	lb.	.80	.85
Pine Needle, Siberian	lb.	.95	1.00
Rosemary, Spanish, tins	lb.	.56	.75
drums	lb.	.51	.70
Sandalwood, E. Ind., U.S.P.	lb.	4.75	4.80
Sassafras, U.S.P.	lb.	.90	1.00
Artificial, drums	lb.	.36	.37
Spearmint, U.S.P.	lb.	1.70	1.75
Thyme, red, U.S.P.	lb.	.85	1.25
White, U.S.P.	lb.	.85	1.45
Vetivert, Bourbon	lb.	3.50	15.00
Ylang Ylang, Bourbon	lb.	3.00	5.00

Aromatic Chemicals

Acetophenone, C. P.	lb.	$1.30	$1.45
Amyl Cinnamic Aldehyde	lb.	2.00	2.25
Anethol	lb.	1.00	1.05
Benzaldehyde, tech.	lb.	.60	.70
U. S. P.	lb.	.85	.95
Benzyl, Acetate	lb.	.44	.49
Alcohol	lb.	.63	.68
Citral	lb.	1.10	3.10
Citronellal	lb.	.75	.80
Citronellol	lb.	1.60	1.65
Citronellyl Acetate	lb.	4.50	7.00
Coumarin	lb.	2.75	4.65
Cymene, drums	gal.	.90	1.25
Diphenyl oxide	lb.	.50	.55
Eucalyptol, U.S.P.	lb.	.55	.57
Eugenol, U.S.P.	lb.	1.70	2.15
Geraniol, Domestic	lb.	.67	3.00
Imported	lb.	2.00	3.00
Geranyl Acetate	lb.	1.20	2.50
Heliotropin	lb.	1.80	2.20
Hydroxycitronellal	lb.	2.00	2.50
Indol, C. P.	oz.	2.00	2.13
Ionone	lb.	1.30	4.05
Iso-Eugenol	lb.	3.00	4.25
Linalool	lb.	2.10	6.30
Linalyl Acetate	lb.	1.35	2.25
Menthol	lb.	3.00	3.35
Methyl Acetophenone	lb.	2.50	3.00
Anthranilate	lb.	2.10	2.30
Paracresol	lb.	4.50	6.00
Salicylate, U.S.P.	lb.	.35	.37
Musk Ambrette	lb.	3.25	3.65
Ketone	lb.	3.40	3.80
Xylene	lb.	1.00	1.25
Phenylactaldehyde	lb.	2.25	3.50
Phenylacetic Acid	lb.	1.75	3.00
Phenylethyl Alcohol	lb.	2.50	3.35
Rhodinol	lb.	6.65	13.00
Safrol	lb.	.50	.53
Terpineol, C. P., 1000 lb. drs.	lb.	.23	.24
Cans	lb.	.25	.30
Terpinyl Acetate, 25 lb. cans	lb.	.77	1.00
Thymol, U.S.P.	lb.	1.40	1.45
Vanillin, U.S.P.	lb.	2.10	2.35
Yara Yara	lb.	1.25	1.50

Insecticide Materials

Insect Powder, bbls.	lb.	.31	.33
Concentrated Extract			
5 to 1	gal.	1.60	1.70
20 to 1	gal.	6.00	6.50
30 to 1	gal.	9.25	9.50
Derris, powder—4%	lb.	.18	.28
Derris, powder—5%	lb.	.24	.34
Cube, powder—4%	lb.	.20	.24
Cube, powder—5%	lb.	.24	.28

Gums

Arabic, Amb. Sts.	lb.	.09	.09¼
White, powdered	lb.	.12½	.14
Karaya, powdered No. 1	lb.	.14½	.23
Tragacanth, Aleppo, No. 1	lb.	2.25	2.35
Flake	lb.	.50	1.00

Waxes

Bees, white	lb.	.37	.39
African, bgs.	lb.	.18½	.19½
Refined, yel.	lb.	.25½	.26
Candelilla, bgs.	lb.	.15½	.16
Carnauba, No. 1	lb.	.37½	.40
No. 2, N. C.	lb.	.34	.35
No. 3, chalky	lb.	.29	.30
Ceresin, yellow	lb.	.08½	.11½
Paraffin ref. 125-130	lb.	.039	.040

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Production Section

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, *Oil & Fat Industries.*

Treating Dark Fats for Soap

IN VIEW of the four-year plan in Germany, soap manufacturers there are interested in all possible sources of fats and oils. That there has been no real lack of fats is proved by the fact that the total production of soap plants in greater Germany has covered the need for soaps of all kinds.

If one has a full choice of fats and oils, substantial amounts of the light-colored grades are used, which are therefore removed as a source of food supply. However, there are numbers of waste fats, which because of dark color and bad odor, have had only limited use in making soap. These fats offer great possibilities and therefore work has been conducted to see how they can be treated so as to become desirable for soap use.

The objectionable odor in fats is usually due to impurities unless they have become strongly rancid. An analysis of waste animal fats showed them to consist of 97 per cent of saponifiable fat, with small amounts of free fatty acids, unsaponifiable matter and ash. Such fats must be treated to remove the usual impurities and also color and odor. The fat is put into broad, somewhat shallow vessels, warm water and dilute sulfuric acid added, and the mass brought to boiling for a short time by means of direct steam, and then allowed to stand. This is preferably done in the afternoon and the fat-water mixture let stand until the next day. The acidic aqueous layer will have darkened and will contain impurities removed by the acid. The water layer is removed and the fat washed with warm water until it is free from acid.

At this stage most of the mechanical and organic impurities should have been separated, even if the color has not been appreciably improved. The fat should be clear. Small-scale tests in the laboratory are now made to see whether the fat can be decolorized with bleaching earth, and if so, how much is needed. If such a treatment is successful, the dry fat is stirred with 3 to 8 per cent of dry bleaching earth at a temperature of about 90° C., according to the consistency of the fat. The period of stirring is determined by removing small portions of fat and filtering; when no further improvement appears in the filtrate, the batch is run through a filter press. In most cases this method of treatment is simple and requires only a filter press in addition to the usual equipment. Expensive apparatus which works at a reduced pressure and has special deodorization equipment, is not necessary. This latter type of equipment does not always do as much as it is expected to.

By preceding the actual work with laboratory study, it is possible to get good results. Dark colored animal fats treated in this way have been converted into bright soap fats other soap stock to give light-colored which could be used alone or with soaps.

Instead of using bleaching earth, the animal fats may be subjected to preliminary boiling in the regular kettle. The fat is saponified with the calculated amount of caustic lye and the soap salted out completely with dry salt. While boiling with lye, noticeable amounts of volatile odorous materials are separated. During the salting out process dirt and dark colored ingredients separate in the lye liquor. If this procedure is carried out a number of times, in most cases the fat so treated will be much improved in color and in odor.

This form of pretreatment naturally requires space and time, but no special equipment, and is practical for many manufacturers. Waste fats from the leather industry are available in good amounts and can be made useful for soap manufacture. The waste fat resulting from the defatting of leather always has a very dark brown color and the very strong odor of crude leather. Such a fat was found to consist of 95 per cent of saponifiable fat, 4 per cent of nonsaponifiable material, and the balance water, dirt and mineral matter. The saponification number of the fat was 189.4 and the iodine number 59. These figures show that the fat is suitable for soap

making if the undesirable color and odor can be removed.

The waste leather-fat was treated in the same way as the waste animal fat. Bleaching tests in the laboratory with 3 to 8 per cent of bleaching earth failed to lead to satisfactory results. Presaponification with subsequent salting out was used. Repetition of this treatment several times gave a marked improvement in relation to color and odor, so that there appeared to be a distinct possibility that this type of fat can be used for soap. Soap factories which do not have fat-splitting and fat-distillation equipment may profit by trying out these methods. *Seifensieder-Ztg.* **65,** 1024-5 (1938).

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Saponifying Fatty Acids

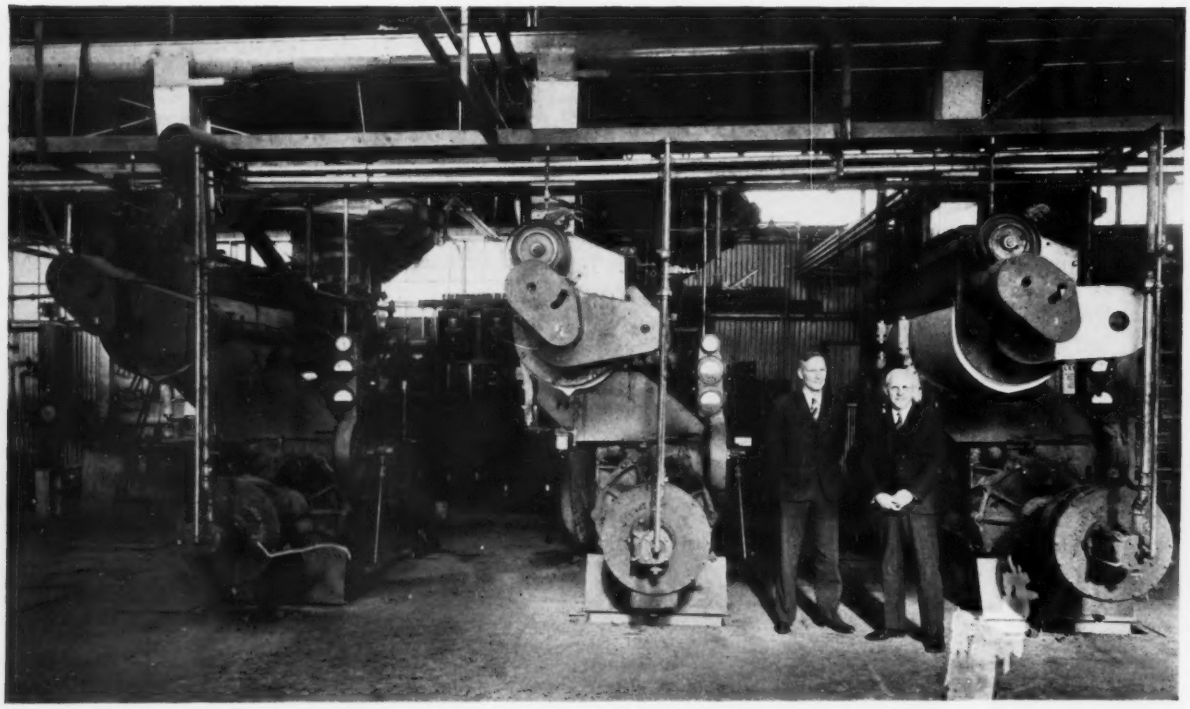
The production of soap from highly split and distilled fatty acids with concentrated lye may result in the formation of clots during a simple boiling process in an open boiler. Saponification takes place with such turbulence that it is difficult to obtain a uniformly saponified mass. The clots formed are oversaturated with lye and dissolve with great difficulty even in a large excess of water. This means that soap is also present which contains free fatty acids. This soap mass is unavoidably decomposed by becoming rancid.

Soap Texture

What determines the texture of soaps . . . raw materials, manufacturing method, moisture content . . . what is correct texture? A discussion from the practical angle of soap composition and texture, what it should and should not be, by Harold Silman of London . . . to be published in an early issue of SOAP.

The difficulty can be overcome without the need for expensive apparatus or lengthy boiling processes, by the addition of salts of strong bases and weak acids, with the exception of carbonates. These salts are mixed into the fatty acid prior to the addition of soda lye. The speed of saponification is reduced in this way, by the buffer effect of the salts, so that saponification proceeds uniformly and goes to completion. Silicates, phosphates, borates and similar salts are suitable, but carbonates are not. The soda lye is added slowly to the fatty acid-salt mixture. The finished soap contains the correct percentage of water by this method of saponification. It is therefore not necessary to cool the soap in molds or cooling presses, to shred it, or to evaporate the water in a drying apparatus.

As an example, 100 kg. of a suitable mixture of fatty acids are stirred with 5 per cent of trisodium phosphate and heated to 80°C. A homogeneous mass is obtained in the boiler and the equivalent quantity of 42° Be. soda lye then slowly added, also at 80°. Heilsberg & Co., G.m.b.H. British Patent No. 494,056; through *Perfumery & Essential Oil Record* **29,** 496-7 (1938).



AT the plant of the Pacific Vegetable Oil Corp., San Francisco, the most recent installation of the latest type Super Duo Expellers by the V. D. Anderson Co. of Cleveland. This equipment is used in crushing flaxseed, hempseed, sesame, peanuts, walnuts and copra at the Pacific Vegetable Oil plant. Individual expellers set on nine-foot centers, giving ample room but not taking up too much floor space. In the photo are B. T. Rocca, president of the firm, and George Harlow, vice-president.

Hydrogenated Soap Oils

HYDROGENATED or hardened oils have been rather neglected in the technical literature, yet these oils are important raw materials in soap manufacture. The hardening which occurs is due to the conversion of unsaturated glycerides such as oleic and linoleic acids to synthetic stearins. The action of hydrogen is selective in that it combines with the more highly unsaturated fatty acids first, a characteristic whereby improved cold-process soaps may be made from oils only partially hydrogenated, as described by C. H. Haurand in U. S. Patent No. 2,078,726. Haurand uses partially hydrogenated coconut and palm-kernel oils in a cold process by which the customary yellowing effect in a finished soap is retarded. The degree of hydrogenation need not be sufficient to alter materially the physical characteristics of the oil.

The chemistry of fat hardening is very simple, as shown in the equation. After hydrogenation, a liquid oil assumes the physical character of a hard fat or a soft oily wax. The iodine number and refractive index are decreased, the melting point and usually the specific gravity are increased, but there is relatively little change in saponification value, free fatty acid content, or unsaponifiable matter.

$$\underset{\text{oleic acid}}{C_{17}H_{33}COOH} + H_2 \xrightarrow{\text{catalyst}} \underset{\text{stearic acid}}{C_{17}H_{35}COOH}$$

Hardened oils of good color and odor can be used in place of high-melting fats such as tallow and palm oil, yielding about the same amount of glycerine for recovery. They call for some adaptations in technique. If used in too high a proportion, hardened oils tend to reduce the lathering properties of a soap by lowering the solubility, and also cause cracks in the finished tablet. High-titer, hardened whale oil (44° C.) gives a considerably harder soap than tallow of the same titer, while low-titer hardened whale oil (31° C.) gives a soap approximately similar to a tallow soap. The high-titer oil is therefore not so suitable for soap-making purposes, but oil having a titer of about 30° C. can be used without detriment in the best toilet soaps and shaving soaps. Addition of rosin tends to increase the solubility of hardened-oil soaps, as in laundry soaps.

The hardening effect has been studied quantitatively. Meyerheim noted that soap made from hardened cottonseed oil was 12 times as hard as soap made from ordinary cottonseed oil. He also pointed out that yellow spots do not form in this soap on ageing. As a consequence of increased hardness, the soap is able to carry a considerably higher content of rosin, by means of which lathering power and odor may be improved. Meyerheim states that hardened oils are useful in toilet-soap base if not present in too great a percentage. This is probably up to about 30 per cent, where the other fatty materials are selected to balance the effects of the hardened oil.

G. Knigge reported experiments carried out with Japanese hardened fish oil having a titer of 50.7° C., a saponification number of 197, and acid number of 11.8. The soaps had compositions shown in the table. In the case of soaps A and B,

	Soaps		
Ingredients	*A*	*B*	*C*
Hardened fish oil	10	20	30
Rosin	10	10	10
Coconut oil	10	10	10
Tallow	50	40	30
Peanut oil fatty acids	20	20	20

the coefficient of lathering, determined by Stiepel's method, could not be read off the apparatus after three minutes in the cold test, since the depth of lather lay below the end of the scale. The coefficient of lathering decreased in the cold test as the hardened Japanese fish-oil content of the stock increased. In the warm test, the figures are all lower than in the cold test. Knigge concludes from his results that the content of hardened Japanese fish oil in the stock mixture should not be much more than 10 per cent for toilet soap. Soaps such as laundry soap, which is used in hot water, may be made from stock mixture containing as much as 20 per cent of hardened Japanese fish oil. A higher content interfered with lathering properties to too great an extent, with this particular hardened oil. S. P. Jannaway. *Perfumery & Essential Oil Record* 30, 5-10 (1939).

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Saponification Method

In order to carry saponification to completion in the manufacture of soap from distilled fatty acids dissociated at a high temperature and saponified with a concentrated caustic soda lye, an alkaline salt is added. Carbonates are excluded. Thus, a mixture of fatty acids is treated with five per cent by weight of trisodium phosphate, heated to 80° C., and mixed with the equivalent amount of a caustic soda lye of 42° Be. Heilsberg & Co. G.m.b.H. French Patent No. 828,233.

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Amine Oxidation Products

A secondary or tertiary amine is oxidized under such conditions that linkage of oxygen to the nitrogen atom occurs. This may be effected with hydrogen peroxide, benzoyl peroxide, sodium hypochlorite or similar oxidizing agents at 20-100° C. in aqueous solution or suspension, or in an organic liquid. If the amine taken does not contain an aliphatic radical of at least eight carbon atoms, the oxidation products are after-treated to introduce such a radical. Thus an oxidation product of a secondary amine of low molecular weight may be treated with an alkylating agent of high molecular weight. The products are less basic than the parent amines, but are still capable of forming water-soluble salts with acids. They may be used as wetting, cleansing and dispersing agents. I. G. Farbenind. A.-G. German Patent No. 664,425.

Products and Processes

Brushless Shaving Cream

A typical formula for brushless shaving cream is:

	Per Cent
Stearic acid	20.0
Liquid paraffin	2.0
Cetyl alcohol	0.5
Caustic potash	1.0
Distilled water	70.0
Glycerine	6.0
Perfume	0.5

The fatty materials are melted together, and a hot aqueous solution of the alkali added. This converts about 20 per cent of the stearic acid into soap. Finally glycerine and perfume are incorporated. Common additions consist of glyceryl stearate, lanolin, cocoa butter, vegetable and mineral oils, etc. *Perfumery & Essential Oil Record* **30,** 15 (1939).

Synthetic Glycerine

Glycerine is being produced from petroleum gases on a small scale. The quality of the product is equal to, if not better than, the best grade of glycerine on the market, and the cost of production leaves a comfortable margin of profit. Heretofore, the price of the highest grade of glycerine has been subject to wide variation, fluctuating from about 10 cents a pound to 70 cents a pound under war conditions. The value of synthetic glycerine from petroleum lies in the possibility of stabilizing prices, although there is no intention of present producers of reducing the price of by-product glycerine from soap to an unprofitable level. *Chem. Trade J. & Chem. Engineer* **104,** 3 (1939).

Soap Antioxidant

A soap antioxidant known as Sopanox, has been announced by the Monsanto Chemical Co. of Akron, Ohio. It was developed originally for use by the soap and allied industries and is now offered to the textile industry. Added in small percentages to solutions of soap, sulfonated oils and similar compositions, the product is said to retard oxidation and the resulting rancidity and discoloration. It imparts no odor or color to soaps, will not affect their detergent efficiency, and can be used with both sodium and potassium soaps. *Textile World* **89,** 83, Jan. (1939).

Cleansing Solution

A washing and cleansing liquid consists of an aqueous solution of a water-soluble salt of orthophosphoric acid and a substance having the general formula $RCON(R_1)R_2COOY$. In the formula R stands for an aliphatic hydrocarbon radical of high molecular weight. R_1 stands for hydrogen or an aliphatic hydrocarbon radical. R_2 is an aliphatic radical which contains fewer carbon atoms than R, and Y stands for hydrogen or an alkali metal atom. I. G. Farbenindustrie A.-G. Canadian Patent No. 379,260.

Soap Recovery

Waste soap from the manufacture of curd soap is heated to 90-100° C. with an aqueous solution of an alkali metasilicate, and the fused soap which separates from the solution is withdrawn and added to a fresh batch of soap. The used metasilicate solution may then be mixed with waterglass for use in other soap. I. G. Farbenind. A.-G. German Patent No. 664,331.

Fatty Acids in Soap

To determine fatty acids, treat the hot solution of 0.3-0.6 gram of soap shavings in three cc. of water with 10 drops of 15 per cent sodium hydroxide solution, one drop of methyl orange and 0.2 *normal* sulfuric acid, to an acid reaction. Shake the cold solution with eight cc. of ether until the fatty acids are dissolved, and centrifuge. Remove four cc. of the ether solution, evaporate off the ether and dry the residue at 80-90° C. to constant weight. The percentage of fatty acids equals $7.95a \times 100/A\ (4—0.84a)$, where A equals the weight of sample, a equals the weight of fatty acids, 7.95 equals the ether volume after shaking with three cc. of saturated sodium sulfate solution, and $0.84a$ equals the volume of acids in four cc. of the ether solution. The last two are experimental values. B. I. Soibelman. *Masloboino Zhirovoe Delo* **14,** No. 4, 12-14 (1938); through Chem. Abs.

Synthetic Fats

The cost of production of synthetic fatty acids must be very much higher than the cost of fatty acids from natural sources. However, in Germany synthetic fats have been made from fatty acids manufactured from hydrocarbon sources. Experiments on rats and other animals fed with synthetic fats in place of natural fats have given very encouraging results. The synthetic fats have been made by esterifying synthetic fatty acids with glycerine. Since glycerine can be made synthetically it is possible to envisage the production of a completely synthetic fat. However, it is highly improbable that fats and fatty acids will be produced from hydrocarbons except in places where normal economic laws do not receive first consideration. Rex Furness. *Industrial Chemist* **15,** 37-9 (1939).

Wetting Agent

An aromatic compound containing more than one halomethyl group linked directly to the aromatic nucleus is condensed with an aromatic hydrocarbon, and one or more sulfonic groups are introduced into the product before, during or after the condensation. The products are water soluble and are useful as wetting agents in the dyeing industry. As an example, naphthalene is sulfonated and the product is condensed in the presence of sulfuric acid, with a reaction product of commercial xylene, formaldehyde and hydrochloric acid, this product containing at least two chloromethyl groups. I. G. Farbenindustrie A.-G. British Patent No. 490,764.

Myristic Acid Soaps

Soap made from myristic acid has the property of excellent foaming power without the irritating effect of coconut oil soap. It can be made by a short heating process as follows: Heat 2/3 of the myristic acid thoroughly, cover, blow with steam to remove odor, if necessary. Add all of the lye calculated on the total soap, figured on the saponification value of the myristic acid, which is about 243. If the mass is thoroughly blended and hot, spray the rest of the myristic acid hot into the soap batch. The latter procedure has to be done very carefully in order to avoid formation of lumps. Proceed with the necessary finishing adjustments.

A toilet soap is made by mixing 50 parts of olive oil and 50 parts of myristic acid with caustic soda, neutralizing the soap, and adding 5 per cent of glycerine. The result was a fine toilet soap of unsurpassed smoothness and enormous foam formation. K. A. Pelikan. *Soap, Perfumery and Cosmetics* **11,** 1018-9 (1938).

Cold Soap Process

Soap is manufactured rapidly in the cold in an emulsifying apparatus. Advantageous results have been obtained by using an apparatus comprising one or more sets of two interengaging, rapidly rotating, toothed wheels. The wheels are controlled separately and the teeth are cut so as to provide a certain constant play between them. The fatty substances are very finely emulsified in this apparatus, then are treated with an accelerator such as sodium peroxide. Water is added and then lye of 40-45 per cent concentration. A soap can be obtained of 94-96 per cent, but if desired water may be added to the finished soap to reduce it to 72 per cent, a comparatively common commercial grade, or to any other desired content. If instead of introducing cold lye, the lye is first warmed to 40°C., the soap, on cooling, sets as a porous, very voluminous mass particularly adapted for the preparation of powdered soap.

As an example, 22-25 kg. of molten tallow or tallow plus coconut oil, are introduced into the apparatus. This is then rotated at 3500 r.p.m. for a few minutes or a sufficient time to produce thorough emulsification. Little by little, without stopping the machine, about 40 grams of sodium peroxide in powdered form are added. The apparatus continues to rotate until mixing of the peroxide with fatty substances is complete. Next 200 grams of water are added in small portions and the rotation stopped for 15 minutes. The emulsifier is again started and 3.16 kg. of lime soda stirred with 2.96 liters of water, which produces a soda lye of 40 per cent, added slowly. Rotation continues for 30 minutes. The contents are then removed to shallow vats, where the reaction goes to completion and where the soap is cooled and sets. R. G. Gerber. British Patent No. 494,276; through *Perfumery & Essential Oil Record* **29,** 497-8 (1938).

Air-blown Palm Oil

Bleaching palm oil by blowing with air, even when carefully carried out, is apt to result in oxidation of the fatty material, with the result that soap made therefrom is very susceptible to rancidification. This difficulty may arise even with the best grades of unbleached palm oil; with pooer grades containing large amounts of free fatty acids, the possibilities of trouble are even greater. F. Wittka. *Seifensieder-Ztg.* **65,** 355-6 (1938).

Coconut Oil Process

The meat of coconuts is reduced to very small fragments, mixed with 1 or more parts of water, pressed to form an emulsion of oil in water, and the oil is separated from the emulsion. The pH is regulated by adding a substance acid in reaction such as acetic acid, lactic acid or butyric acid. The acids may be produced with the aid of microorganisms. Ficente G. Lava. French Patent No. 826,831.

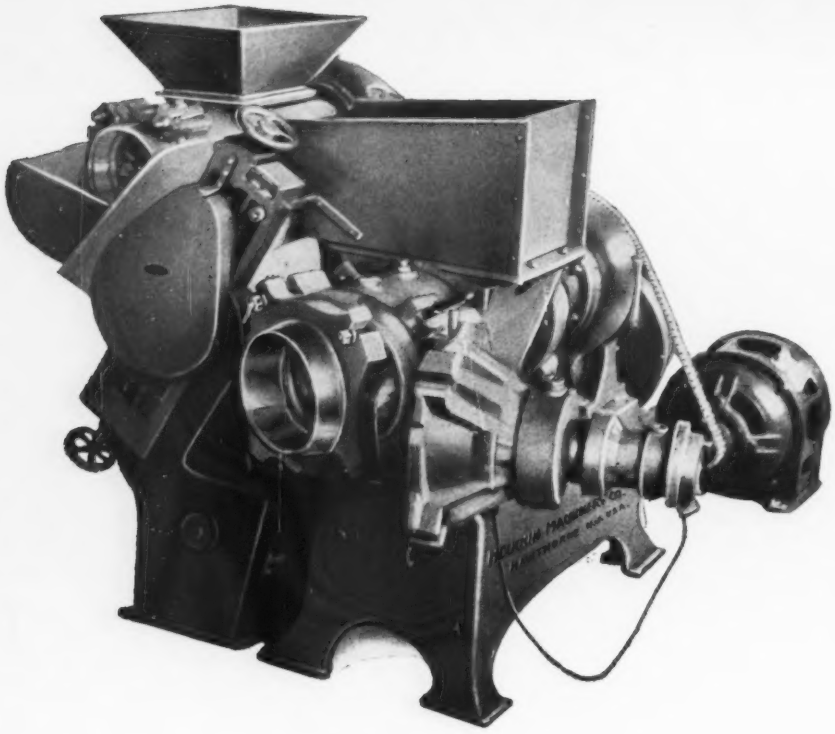
Fatty Acid Synthesis

Fatty acid synthesis from paraffin, as carried out at the Oppau Research Laboratory of the I. G. Farbenindustrie, falls into two stages. The first is the oxidation stage, and the second the preparation stage, which includes saponification of the oxidized products, separation of the unsaponifiable products, splitting of crude soap, and distillation of the crude fatty acids. Between these stages, and before oxidation, operations such as washing, bleaching, filtration etc., are necessary. In the oxidation stage air is blown through the melted paraffin at 90-160° C. for about 10 hours. A number of conditions must be observed in order to obtain good results, which include the use of suitable catalysts, the maintenance of an optimum temperature, the right measurement and distribution of the oxidizing air, and the breaking off of oxidation at the right stage.

The preparation stage begins with the washing of the oxidation products with an aqueous solvent. The washed product is then treated with a lye, and can then be freed from unsaponifiable constituents in two different ways. The first method is to extract these with solvents in which only the unsaponifiable constituents are soluble, and the other method is to distill them off at a sufficiently high temperature, based on experience in coal hydrogenation and petroleum-refining practice. In both cases the remaining crude soap is split by the use of a dilute acid, and the fatty acids set free. These are separated by distillation into fractions specially suited for soap manufacture. Chemical Age **39,** 279-80 (1938).

Oil Refining

A process for refining crude fats and fatty oils other than vitamin-containing liver oils comprises "breaking" the initial material by treatment with a small amount of alkali, separating the mucilage, and submitting the broken fat or oil to high-vacuum short-path distillation. Canadian Industries Ltd. Canadian Patent No. 378,404.



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IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

542—Taylor Hygrometer

Taylor Instrument Companies, Rochester, have announced a new instrument in the hygrometer field. This hygrometer, they say, presents for the first time a wet-and-dry bulb instrument that combines high accuracy and legibility with complete accessibility for installation and routine servicing. By loosening two thumb screws, the complete assembly swings out on a triple-hinged bracket.

543—New Filling Machines

Stokes & Smith Co., Philadelphia, has increased the range of filling that may be done on S. & S. machines. Some 200 different materials may be filled by some of them. High productions are obtained by duplex or tandem filling stations and for the highest speeds four or more stations are combined in one unit. Speeds are generally 30 per minute at each station, but vary somewhat with the particular package and method of fill. Folders with full details are available.

544—Glycerine Pamphlet

L. Pasternak Co., New York, has issued a supplement to its glycerine pamphlet, which shows statistics for the year 1938. These statistics include production, import and export figures for both crude and refined glycerine.

545—Prentiss Price List

R. J. Prentiss & Co., New York, have issued a price list of botanical drugs and insecticidal raw materials. The booklet gives buyers a condensed price book for ready reference. Copies are available.

546—Vegetable Oil Review

The Imperial Economic Committee, England, has recently published a comprehensive report on vegetable oils and oilseeds. It includes a summary of figures of production, trade and consumption relating to cottonseed, linseed, soya beans, ground nuts, copra, oil palm products, olive oil and other oilseeds and oils.

547—Fat and Oil Prices

The Davidson Commission Co., Chicago, has recently issued a booklet giving the high and low price records of fats, oils and by-products from 1928 to 1938. Copies are available.

548—Aromatic Folder

Aromatic Products, Inc., New York, has issued a folder containing description and prices of some of their products. These include fly spray deodorants, cresylic acid deodorants and formaldehyde odors for embalming fluids.

549—Fats and Oils Booklet

The United States Department of Commerce has just published a booklet on the fats and oils trade of the United States in 1938. Complete figures are given for exports and imports.

550—Fixanal Preparations

Pfaltz & Bauer, Inc., New York, offer new literature describing DeHaen's Fixanal Preparations for preparing standard solutions of laboratory reagents. Copies may be had upon request.

551—Edge Moor Bulletin

Edge Moor Iron Works, Inc., New York, has recently issued a new bulletin covering description and engineering data on Edge Moor Low Head Boilers. Engineering tables included in the bulletin are of interest. Copies are available.

Fats and Oils Production

U. S. factory production of fats and oils during the three-month period ending Dec. 31, 1938, according to the latest figures by the Bureau of Census, was as follows: Vegetable oils, 977,021,512 pounds; animal fats, 505,815,947 pounds; and greases, 87,253,396 pounds. The individual production of various fats and oils are given in the following table:

	Lbs.
Coconut or copra oil, crude	73,684,873
Babassu Oil, crude	5,405,933
Tallow, inedible	130,982,377
White grease	15,782,809
Yellow grease	20,441,134
Glycerine, crude 80% basis	40,343,671
Glycerine, dynamite	11,372,435
Cottonseed foots, 50% basis	45,906,954
Cottonseed foots, distilled	16,874,062
Other vegetable oil foots, 50% basis	36,520,584
Other vegetable oil foots, distilled	326,596
Acidulated soap stock	22,489,519
Miscellaneous soap stock	349,979

Oils imported for consumption during the same quarter of 1938 included the following:

	Lbs.
Olive oil, sulfured	5,455,996
Olive oil, other inedible	1,500,875
Coconut oil	101,342,966
Palm oil	74,719,129
Glycerine, crude	4,441,170
Glycerine, refined	181,111

George W. Goudy Dies

George W. Goudy, general representative, foreign manager and director of Philadelphia Quartz Co., died February 7, in his sixty-ninth year, at his home in Highland, Ulster County, N. Y. He had been associated with the company over 40 years, having first served as a salesman. During the last year and a half illness has prevented him from active work. His wife, Mildred Ritz Goudy, and two sisters survive.

Naylee Appoints Counsel

Naylee Chemical Co., Philadelphia, maker of "Rainbow" bleach and disinfectant, has recently appointed J. M. Korn & Co., that city, as advertising counsel.

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"I would like to express my appreciation of the policy of your company in providing up-to-the-minute information . . ."

"For thirty-four years we've insisted on your uniform, high quality, silicate of soda."

"This contract implies more than the mere delivery of silicate. We must lean on you for the very best you have in research, forward looking practice . . ."

Thorough-going PQ Silicate Service *Saves Money!*

YOU PROFIT in many ways when you choose PQ Silicates. First, because you have access to a fund of experience and knowledge accumulated on silicates of soda since back in the sixties. Are you a user or a prospective user? Then consult us about a problem.

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Complete copies of any patents or trade-mark registration reported below may be obtained by sending 25c for each copy desired to Lancaster, Allwine and Rommel. Any inquiries relating to Patent or Trade-Mark Law will also be freely answered by these attorneys.

No. 2,142,870. Detergent Compound. Patented January 3, 1939, by Lloyd A. Hall and Carroll L. Griffith, Chicago, Ill., assignor to The Griffith Laboratories, Inc. The method of forming a stable alkaline detergent compound comprising principally a hydrated sodium phosphate and carbonate complex which comprises admixing a trisodium phosphate and a sodium carbonate compound of the class consisting of sodium carbonate and sodium sesquicarbonate and their hydrates in proportions to provide a ratio of about 0.5 to about 1.8 phosphate groups to each carbonate group with water in proportions of from about 45 per cent upwardly of the solid compounds to at least form a slurry and dehydrating the resulting mixture to form a stable, normally solid, pulverizable product, containing in stable combination from about 18 to about 26 per cent of water.

No. 2,142,871. Alkaline Detergents, Patented January 3, 1939, by Lloyd A. Hall, Chicago, Ill., assignor to The Griffith Laboratories, Inc. The method of producing a homogeneous stable alkaline detergent product containing sodium borate and phosphate compounds in solid solution which comprises heating a trisodium phosphate and borax in the presence of a quantity of water greater than that in the final product and sufficient to form at least a slurry, the proportion of borax varying from about one-half to about one-fourth of the solid constituents, thereby driving off water and reducing the water content of the mixture to 5 to 25 per cent thereof, whereby a stable solid solution is formed having an X-ray diffraction pattern including lines and spacings characteristic of ignited anhydrous sodium phosphate.

No. 2,142,983. Process for Soap, Patented January 3, 1939 by Benjamin H. Thurman, Bronxville, N. Y., assignor to Refining, Inc., Reno, Nev. A method of making a powdered or granular soap, which method includes the steps of: forming a body of molten and substantially anhydrous soap in a chamber from which air is excluded and which chamber is maintained at sub-atmospheric pressure; withdrawing a stream of the molten and substantially anhydrous soap from the chamber without substantially impairing the sub-atsmospheric pressure; moving the stream of substantially anhydrous soap thus withdrawn through a cooling zone wherein the stream is cooled while still under subatmospheric pressure and out of contact with the atmosphere; increasing the pressure on the stream of soap; and continuously converting the cooled soap into subdivided form.

No. 2,143,060. Shaving Preparation, Patented January 10, 1939, by Victor Dzialoschinsky and Georg Deutschland, Berlin, Germany, assignors, by direct and mesne assignments, to Max Goldmann, New York, N. Y. A normally stable, non-lathering shaving preparation in solid stick-like form capable of direct application to the moistened skin comprising an intimate mixture of a staple oxygen-producing substance, a binder, and a water soluble filler serving to facilitate the access of water to the oxygen-producing substance when the shaving means is moistened, the oxygen-producing substance being present in amount capable of conditioning the beard for shaving by applying the preparation for a short period of time and then washing away before shaving.

No. 2,143,066. Detergent Composition, Patented January 10, 1939, by William H. Hampton, Berkeley, Calif., assignor to Standard Oil Company of California, San Francisco, Calif. A detergent composition comprising water-soluble soap having dispersed therein a petroleum extract having an aniline point below 70° F. and comprised largely of unsaturated, cyclic non-benzenoid, and aromatic hydrocarbons, the petroleum extract being characterized in that it is soluble in liquid sulfur dioxide and obtainable by selective solvent extraction of natural petroleums and their distillates.

No. 2,143,282. Mercury Parasiticide, Patented January 10, 1939, by Alwyn C. Sessions, New Brunswick, N. J., assignor to California Spray-Chemical Corporation, Berkeley, Calif. A water-insoluble complex compound of mercury in which the mercury is chemically combined with silicate, ammonia nitrogen and a negative ion the simple mercuric salt of which is water soluble.

No. 2,144,366. Oxidation Inhibitor for Insecticides, Patented January 17, 1939, by Dalton B. Faloon, Beacon, N. Y., assignor to Hammond Paint & Chemical Co., Inc., Beacon, N. Y. An insecticide comprising an easily oxidizable organic vegetable toxic material of the group consisting of pyrethrum and rotenone and a phenol of the group consisting of lignicol, guaiacol, cresol, thymol, phenol, eugenol, resorcinol, parogallol and hydroquinone to stabilize the same.

No. 2,144,367. Oxidation Inhibitor for Insecticides, Patented January 17, 1939, by Dalton B. Faloon, Beacon, N. Y., assignor to Hammond Paint & Chemical Co., Inc., Beacon, N. Y. An insecticide comprising a volatile solvent vehicle, an easily oxidizable organic vegetable toxic material of the group consisting of pyrethrum and rotenone dissolved therein, and a naphthol of the group consisting of alpha naphthol and beta naphthol to stabilize the same.

No. 2,144,368. Oxidation Inhibitor for Insecticides, Patented January 17, 1939, by Dalton B. Faloon, Beacon, N. Y., assignor to Hammond Paint & Chemical Co., Inc., Beacon, N. Y. An insecticide comprising an easily oxidizable organic vegetable toxic material of the group consisting of pyrethrum and rotenone and a rotenone and naphthylamine to stabilize the same.

No. 2,144,369. Oxidation Inhibitor for Insecticides, Patented January 17, 1939, by Dalton B. Faloon, Beacon, N. Y., assignor to Hammond Paint & Chemical Co., Inc., Beacon, N. Y. An insecticide comprising an easily oxidizable organic vegetable toxic material of the group consisting of pyrethrum and rotenone and an aromatic amine of the group consisting of diphenylamine and benzidine.

No. 2,145,583. Shaving Cream, Patented January 31, 1939, by Grace W. Carlson, St. Paul, Minn., assignor to Victor H. Roehrich, St. Paul, Minn. An antisudorific cream comprising a cream base, a powerfully astringent metallic salt mixed intimately therein, and a protective colloid to prevent the astringent salt from breaking down the cream base.

Synthetic Detergents

The synthetic detergents differ from soap in some of their properties, one of them being their affinity for wool fabric. The figures in the table show this difference semiquantitatively.

Adsorption of Detergents by Wool and Cotton

Detergent	*Pounds adsorbed per Piece 100 yd. x 40 in.*	
	Wool serge	*Cotton cloth*
Soap	2.3	0.17
Cetyl sodium sulfate	0.3	0.17
Cetaine sodium sulfonate	0.8	0.23
Oleic taurine ...	0.17	—
New detergent of amide type ...	0.12	0.12

Wool adsorbs much more soap than it does synthetic detergent. On the other hand, the amounts of detergent adsorbed by cotton are all about the same. Adsorption of detergents by silk is probably similar to that of wool, and rayon to that of cotton.

In the synthetics, the length of the hydrocarbon chain influences the efficiency of wetting, as shown in the table:

Alkyl sulfate	*Concentration to give sinking in 25 seconds at 25°C.*
Ocetyl	5.5 g/1.
Decyl	1.44
Dodecyl	0.86
Tetradecyl	0.45
Cetyl	*Insufficient solubility*

The wetting efficiency was measured by the official sinking-time method. Efficiency increased with increase in chain length until the molecule becomes too large to be soluble. Increase in temperature is accompanied by an increase in wetting efficiency up to a certain point, and then the wetting efficiency falls off. Harold L. Jones. *Am. Dyestuff Reporter* **27,** P621-4 (1938).

Linseed Oil Hydrogenation

Refined linseed oil (150 grams) of acid number 0.4, iodine number 147 and containing 5.3 per cent of saturated acids, was hydrogenated with 20 grams of ethyl alcohol. At the limit of saturation with hydrogen there was a high content of linoleic acid in the hydrogenation product. This is probably characteristic of all oils containing linolenic acid, since oil containing no linolenic acid is easily hydrogenated to oleic acid. Nickel chromate on a carrier promoted the formation of isoöleic acid (13.8 per cent); the same catalyst without carrier, promoted the formation of linoleic acid, as should be expected since the carrier increased the surface of the catalyst, and therefore the hydrogenation process proceeded much farther. V. M. Puzanov. *J. Applied Chem.* (*U.S.S.R.*) **11,** 670-3 (1938); through Chem. Abs.

Lime Stability of Soaps

Sodium silicate and alkali metal carbonates are not as effective in improving the lime stability of soaps as are alkali metal phosphates and hydrogenated phenols such as cyclohexanol and methyl cyclohexanol. Hans-Joachim Henk. *Seifensieder-Ztg.* **65,** 317 (1938).

Soap Discoloration

(*From Page* 23)

Despite what may have been written to the contrary, one of the prime causes of darkening in ordinary laundry soaps is the presence of rosin soap. This factor completely overshadows any other. It matters little that rosin has been held to prevent, to some degree, rancidity. The fact remains that in 1921, a whole series of acids termed colophenic acids were isolated from rosin, their general formula showing them to be highly unsaturated, while experiments proved that, while themselves colorless, they definitely form dark salts with alkalies. It is therefore essential to remove them, as far as possible, when utilizing large quantities of rosin, by adding the rosin to the oil charge, before the latter is refined and treated with bleaching earths in high vacuum.

Metallic Contamination

OPINIONS differ widely as to the relative importance of metallic contamination as a cause of discoloration in soaps. Many soapmakers continue to employ iron pans and iron equipment generally, as well as brass and copper stamping machines, yet do not apparently find any tendency in their soaps to discolor. Some soapmakers simply make not attempt to prevent the contact of soap and soap raw materials with iron equipment, iron-containing lyes, and perfume oils that contain traces of metal salts. In their opinion, apparently, the avoidance of discoloration and related problems should be readily accomplished by due attention of complete saponification, careful selection of soap stock and perfume materials, and possibly the incorporation of a suitable antioxidant.

When one considers the enormous output of technical literature dealing with this very problem of metallic contamination, one can scarcely ignore the presence of metals and metal salts in traces as a potential (and in some cases very real) source of trouble. With the aid of a quartz mercury lamp, metallic impurities in soaps may be readily detected before the soap stains or spots themselves are visible to the naked eye.

The accelerating effect of metals on the development of rancidity and "spotting" is particularly pronounced in the pressure of oxygen. Off-color metallic soaps are formed with free fatty acids, the speed of the reaction increasing with the lower molecular weight fatty acids. Catalytic processes may also enter into play, with the metals themselves generally acting as catalysts. It will therefore be readily appreciated that metallic contamination may well give rise to a diversity of discoloration problems.

Nickel, Monel metal, and certain of the newer alloys have received a good deal of deserved publicity as suitable materials for storage tanks and soap plant equipment to replace the more customary iron, copper and brass. Monel metal and nickel are exceptionally resistant to the action of fatty acids, the marked superiority of nickel over-copper, iron, steel and aluminum having been shown recently in tests carried out by the Berndorfer Metallwarenfabrik Arthur Krupp A.G. of Berndorf, Austria. Certain alumi-

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Nickel, Monel metal, and certain of the newer alloys have received a good deal of deserved publicity as suitable materials for storage tanks and soap plant equipment to replace the more customary iron, copper and brass. Monel metal and nickel are exceptionally resistant to the action of fatty acids, the marked superiority of nickel over-copper, iron, steel and aluminum having been shown recently in tests carried out by the Berndorfer Metallwarenfabrik Arthur Krupp A.G. of Berndorf, Austria. Certain alumi-

num alloys (such as one consisting of 86 per cent Al, 13 per cent Se, 0.5 per cent Fe) have also apparently proved to be highly resistant to fatty acid corrosion.

Iron soaps are virtually insoluble in water, so that once formed they remain in the finished soaps, to give rise to stains and discolorations. Yet, while iron soap kettles should obviously be kept as free from rust as possible, any attempt to remove the protective coating of soap on the inner surface is likely to make matters worse. In this connection, the suggestion has been put forward (and in some cases adopted) that iron tanks and kettles should be lined with light-gauge Monel metal, or probably more satisfactory is the use of nickel-clad steel for the top course and cover of boiling kettles, in view of the fact that corrosion is usually most active at and above the air line.

Pumps, pipe lines, amalgamators, plodders and presses,—in fact almost the entire equipment of the modern soap factory should come under review in this respect. Julius Schaal, Paul Jellinek and others have laid particular emphasis on the trouble that can be caused by metallic contamination during the pressing process, owing to the catalytic action of the iron and copper in the press. In view of the fact, however, that even Schaal (who first discussed this potential pro-discoloration factor) admits that the occurrence of spotted soap due to this cause is definitely spasmodic, most soapmakers nowadays agree that, so long as presses are kept clean and well-fitting, trouble of this sort is unlikely to occur.

Faulty Procedure

FAULTY procedure during the various soapmaking processes is in most cases only a secondary cause of discoloration, bound up with the fundamental problems of metallic contamination, the type and condition of the oils and fats used, etc. Thus the part played by unsaponified fat in a finished soap depends to a very great extent upon the quality of the fats used, whether the latter were originally rancid or tending to rancidity, or whether traces of copper for example were included at some stage of the process. Generally speaking, the danger of unsaponified fat has been over-emphasized in certain quarters, although in conjunction with the other factors mentioned, it can certainly prove to be a problem contributing to rancidity, spoilage of odor and discoloration.

The interesting experiments of Hagen (*Seif-Ztg.* 1931, 110) show that a soap prepared under good conditions, from an iron-free lye, kept perfectly for several months, even though 10 to 13 per cent of unsaponified fat was present. A similar soap, however, containing only 2 to 5 per cent unsaponified fat, but prepared with iron-contaminated lye, became rancid and discolored after the lapse of a few days.

That discoloration in certain cases can be traced to over-rapid drying seems proved beyond question, even though the majority of soapmakers do not appear to experience this trouble. If a soap is made from good quality fats and oils, properly saponified, there should be no cause for complaint during the drying process, even though the thin chips of soap may be exposed to a high proportion of carbon dioxide in the atmosphere. But, as I have already said, the decisive factor is doubtless the type and quality of the processed fats.

Schaal, Winter, Davidsohn, Thomssen and Kemp, and others have all referred to the better results obtained by framing certain soaps, rather than by passing them over the modern chilling rolls and through a drying chamber. In the first place, supplementary saponification of unsaponified fat occurs in the frames, whereas no allowance for this is made during rapid drying. Secondly, the desirable small excess of free alkali present in the soap may be converted into the non-protective carbonate, during the modern drying process, owing to the exposure of the thin film of soap to atmospheric carbon dioxide.

In certain special circumstances, Schaal observed that a pale ivory-colored soap made by the framing process became (a) almost immediately mottled when treated in a band dryer and (b) slowly discolored, when treated in a cooling press, until a uniform yellow-brown shade was attained after a lapse of about a year. As recently as last year, H. Braun quoted a somewhat similar case that came to his notice in which a well-known German toilet soap began to exhibit spotting, the defect being ultimately traced to the use of a band dryer. In this latter instance, the perfume was first of all blamed, but even after changing it, the trouble still persisted. Ultimately a batch of the soap was framed and another treated in the drying chamber. Tablets of the frame-cooled soap remained flawless, while the more rapidly dried portion gave the usual stains after two months.

Such experiments do not, of course, lead to any real condemnation of modern methods of drying, for they contain no references to fundamental possibilities such as incomplete saponification, use of unsuitable fats and oils, etc. In other words, if a soapmaker cannot make a stable soap by use of modern drying equipment, then there must be something wrong somewhere, but not necessarily with the dryer. While on this subject, we may note that soap dries more satisfactorily in a moist atmosphere, and in the case of modern dryers, it is often an advantage to circulate a portion of the moist air from the exhaust pan back through the drying chamber, and to reduce the inlet air proportionately. This was first suggested by H. P. Martin (*S.P.C.*, May, 1934) to improve the texture of toilet soap chips. It is also useful to reduce the rate of drying as a safeguard against rancidity and spotting.

Too high a moisture content in soaps is, of course, apt to prove fatal, whereas rancidity is often checked once a soap has been dried. A soya bean soap containing 62 per cent f.a. will, for example, turn completely rancid in a month, whereas the same soap, dried immediately to 80 per cent f.a., will remain free from rancidity for years.

Perfumes That Discolor

THERE is no doubt that soap discoloration occurring either uniformly or as isolated stains can, in some cases, be traced to the use of unsuitable perfume materials. This can be guarded against by the correct choice of perfume constituents, in the first place, and subsequent shelf-testing of sample cakes of soap into which a somewhat higher proportion of perfume than is customary has been milled. For the latter purpose a miniature laboratory-scale plodder and mill may be employed, although more frequently use is made of a domestic mincing machine and a mortar. Individual perfumery materials and also compounds may be incorporated in this manner, and the resulting cakes tested for discoloration and odor-changes after they have been exposed to air and light for a period of one month.

To save time and trouble, various lists of perfumes and their reactions in soap have been compiled (notably the alphabetical list included in W. A. Poucher's "*Perfumes, Cosmetics and Soaps*"). While certain perfume materials are themselves dark in color, they do not necessarily give rise to progressive discoloration, whereas others, such as vanillin and isoeugenol, although white or colorless, will definitely give rise to discoloration.

Vanillin causes white soaps containing it to turn yellow or brown, on exposure to sunlight, and yellowish-brown spots may be present, depending upon the homogeneity of the soap mass. It is therefore desirable to replace vanillin by one-half or less the amount of its higher homolog, ethyl vanillin. As the latter has a more powerful odor, the quality of the perfume will not be affected by such replacement.

Heliotropin, for the same reason, is permissible only in colored soaps. The same applies to indole, skatole, eugenol, isoeugenol, clove oil, pimento oil, origanum, thyme oil, cinnamon leaf oil, cassia oil, lemon oil, lemongrass oil, orange oil and petitgrain oil. It will be noted that the tendency to yellow discoloration is particularly marked in phenolic compounds and oils containing them. Musk xylol also tends to produce yellow spots, and should in any case be thoroughly dissolved.

Reputable perfumery supply houses always have available ready-made compounds guaranteed not to cause discoloration in white soaps. Recourse to these is often wise procedure as they will frequently save much time and trouble that otherwise would need to be spent in experiment and research.

Use of Antioxidants

THERE is no space here to do more than refer in passing to the work of Mourea, Dufraise, Hilditch, Olcott and others on the natural "antioxygens" or "inhibitols" that are present as rancidity preventives or retarding agents in natural fats. The fact remains that they are to a great extent destroyed by modern refining and bleaching methods. The discovery and application of artificial antioxidants have therefore become the subject of intensive research during recent years, not only in connection with soapmaking but also as an important branch of edible fat and margarine production.

Among the antioxidants claimed to be successful or partly successful in soaps, may be cited sodium hyposulfite, parahydroxybenzoic acid derivatives, sodium benzoate, paraphenyl phenolate, hexamethylenetetramine, hydroxylamine hydrochloride, gossypol (from crude cottonseed oil), meta and para formaldehyde, stannous chloride, stannous oxide, sodium stannate and magnesium silicate.

As long ago as 1900, and probably much farther back than that, stannous chloride (or tin crystals) was secretly used by soapmakers to improve the color of soap. Nowadays, this product is rightly regarded as one of the more satisfactory antioxidants and not (as was formerly thought) a bleaching agent. Modern procedure entails the incorporation of tin crystals, not in the pan, as hitherto, but in the optimum proportion of about 0.2 per cent, added in the amalgamator as a concentrated solution just prior to milling. Stannous chloride is claimed to inhibit completely the oxidation caused by certain perfumes, and has even stabilized soaps in artificially developed unfavorable conditions, containing for instance known proportions of copper salts. H. P. Martin (*loc. cit.*) has defined the concentrated solution as one prepared by adding 35 parts of tin crystals to 25 parts of hot water, to be strained through fine cloth prior to use. For toilet soaps, six ounces of this solution per 112 lbs. of dried soap chips gives approximately the 0.2 per cent of crystals required in the finished soap.

Other Factors Involved

IN conclusion, brief reference should be made to the following pro-discoloration factors that have on occasion been referred to in the literature: *a.* electrochemical formation of black tin monoxide and metallic tin in soft soaps packed in tin cans (H. Kranich, *Soap*, March 1935); *b.* the application to soaps of embossed copper seals or metal foils; *c.* exposure to bright light and other unfavorable conditions; *d.* admixture of air in floating soaps; *e.* adding remelted scrap to soaps; and *f.* bleaching soap in the kettles instead of using pre-bleached soap stock. Most of these factors are only of secondary importance, the most interesting being that referred to by Kranich. The latter's original paper is well worth perusal.

Out of all the above tangle of evidence and supposition, what then clearly emerges? Briefly this: (1) fats, oils and perfumes used for soapmaking call for special attention as possible causes of discoloration; (2) metallic contamination has to be guarded against; (3) over-rapid drying may occasionally give rise to trouble; (4) the colophenic acids present in rosin are the prime cause of discoloration in heavily-rosined soaps; (5) the judicious incorporation of an effective antioxidant is frequently an excellent precautionary measure.

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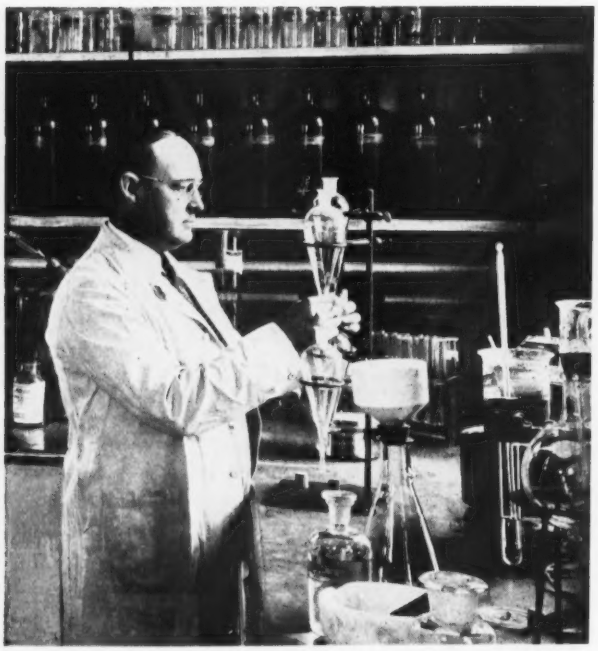

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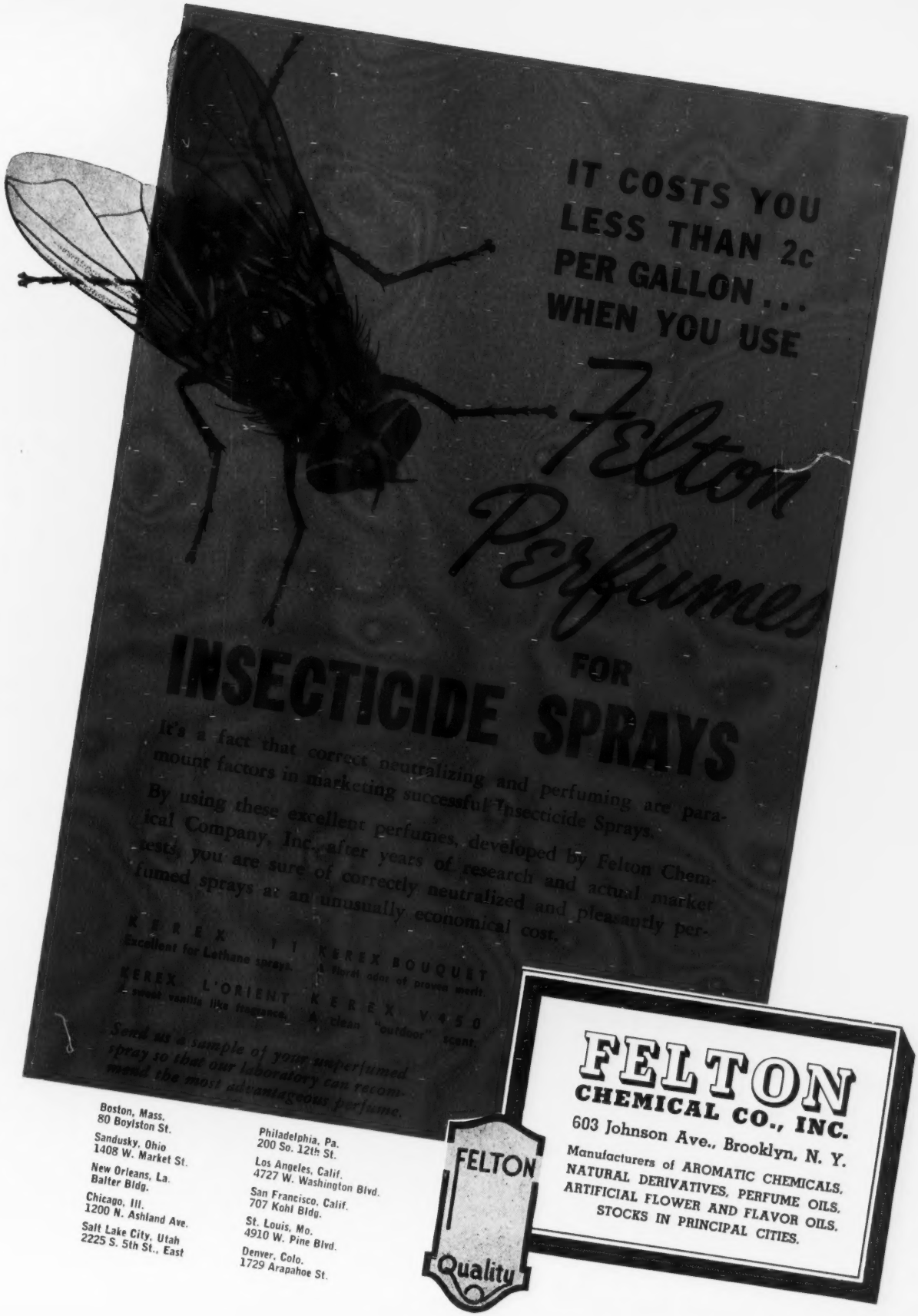
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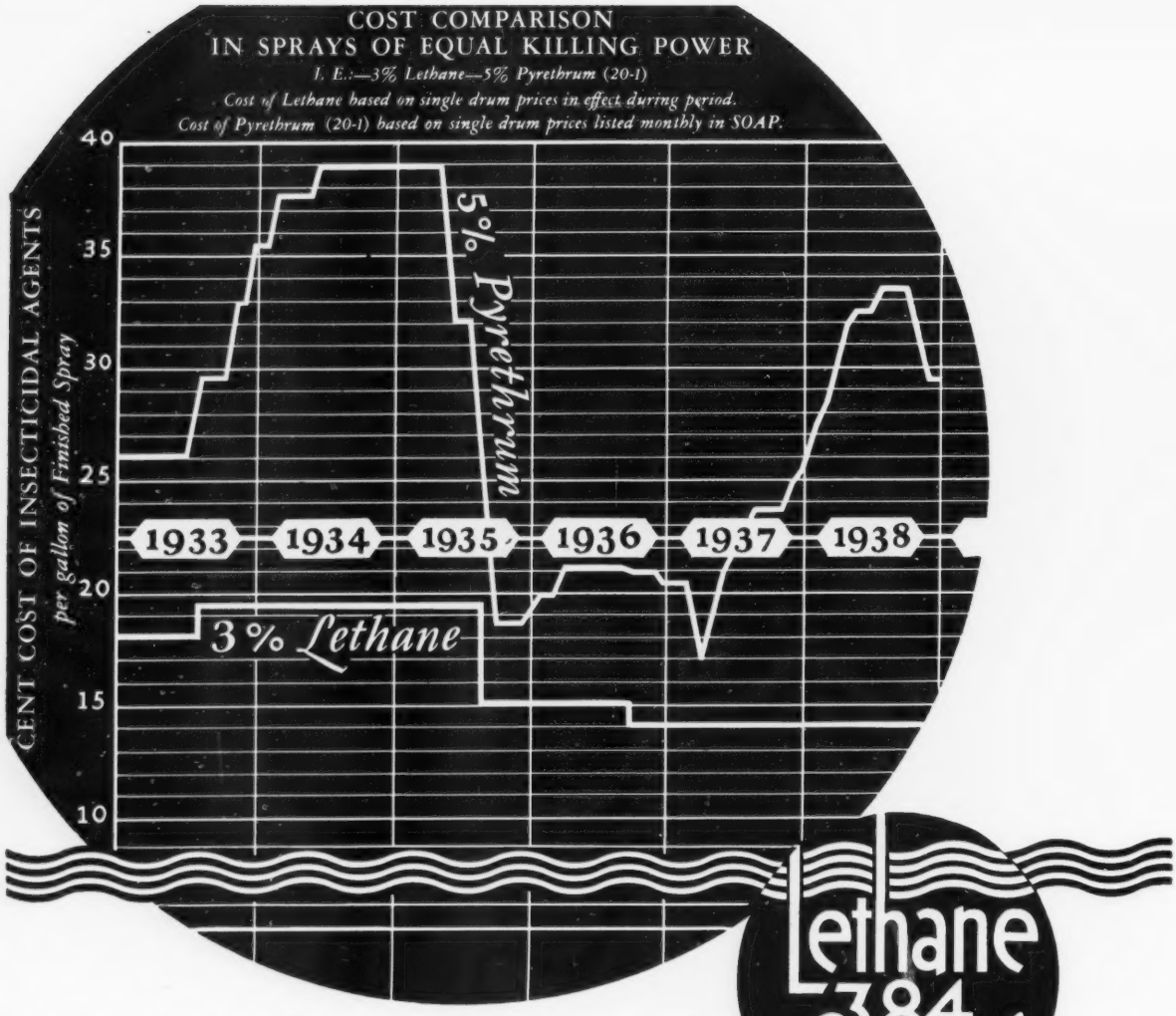

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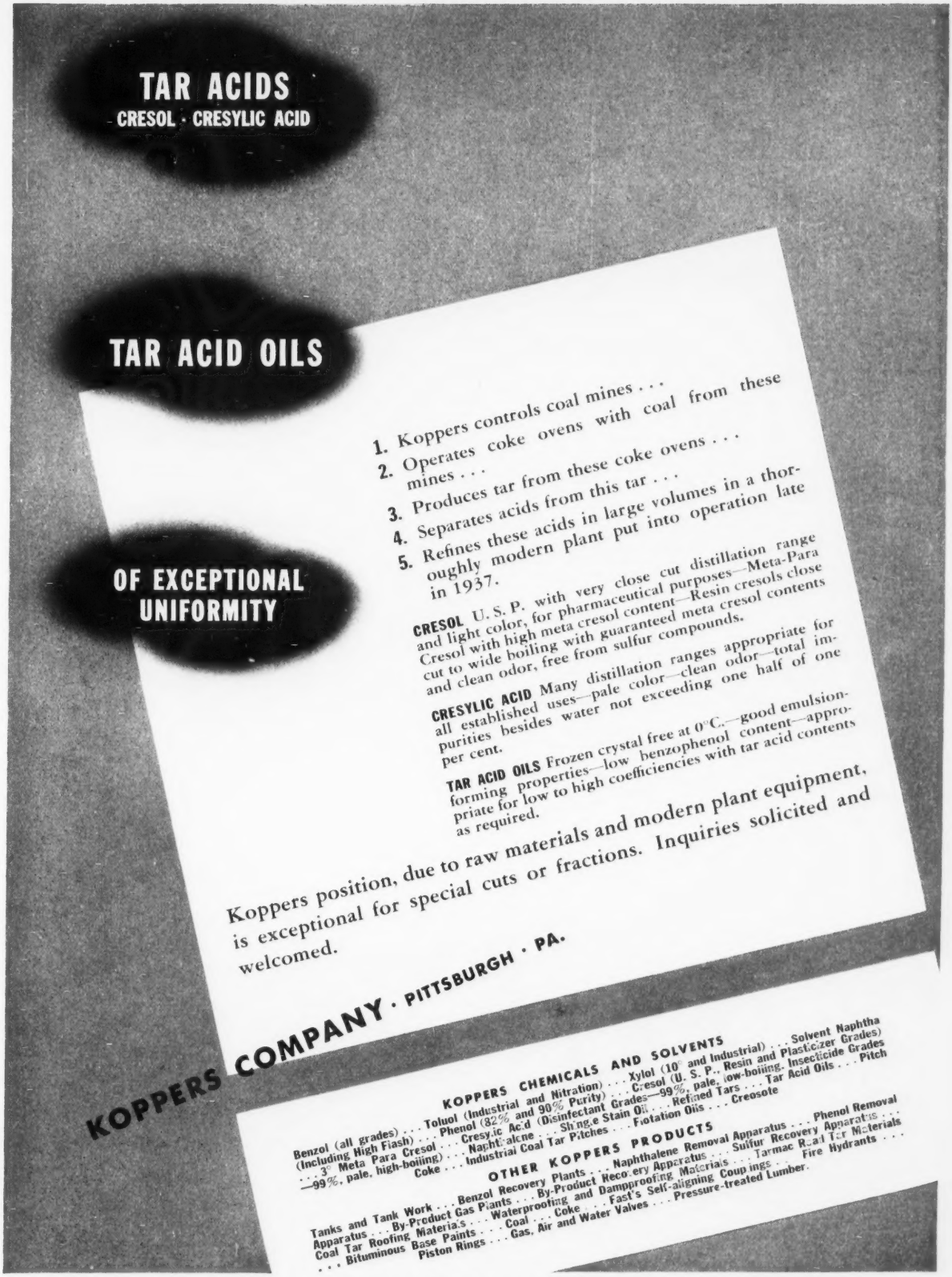

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PENPINE is manufactured under careful control, both in the laboratory and in the plant. Our pine oil disinfectants are being constantly checked—from raw materials to finished disinfectant—this is done to protect YOU—to make positively certain YOUR customer is satisfied. We know then that repeat business will be assured you.

Pine Oil disinfectants have certain advantages over coal tar and cresol disinfectants in that they are non-toxic, non-irritating, non-corrosive; do not injure cloth, metals, etc., do not injure body tissues, are comparatively cheap, are not affected appreciably by organic matter, and have a pleasant odor.

CLEARPINE, PENPINE and ORPINE can be used anywhere clean and sanitary quarters are desired. A partial list of places using this type of disinfectant follows:

Hotels, schools, institutions, hospitals, office buildings, stables, factories, jails, public buildings, railroad terminals, theatres, and many others. Doctors and veterinarians also use this type of disinfectant.

Distinctly Finer Pine Oil Disinfectants

by

Baird & McGuire, Inc.

ST. LOUIS, MO. HOLBROOK, MASS.

Sanitary Products

A Section of SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

FROM San Francisco comes a newspaper story which states: "The California Medical Association will sponsor at the Golden Gate International Exposition an exhibit of about ten innocent-looking chemicals which are capable of producing cancer. The most guilty of the lot are coal-tar derivatives." On a previous occasion, we have read of similar references from the same source to certain coal-tar materials which have been used for years in the manufacture of disinfectants and germicides. That this sort of sensational ballyhoo to gain newspaper publicity borders closely on the cheapest type of quackery, is quite obvious. It is amazing to us that the California Medical Association would permit such tripe to go out over its name,—or has some publicity man taken the bit in his teeth? Letters of protest to both the Exposition and to the medical association from the disinfectant industry would be distinctly in order.

THE home manufacture of cattle sprays is being recommended in a bulletin of the U. S. Bureau of Animal Industry. The use of pyrethrum extracted with oil and emulsified with an aqueous solution of soap is the suggestion to farmers. There is no need to go further into the details of manufacture. Let it be said solely in the light of a growing file of authoritative evidence that this type of information disseminated among the farmers of the nation is misleading, harmful, and definitely opposed to their best interests. We have criticized state experiment stations, whose facilities for keeping posted are sometimes limited, for making this same error, but when a bureau of the U. S. Department of Agriculture broadcasts misinformation, it is in our opinion a far more serious matter.

To begin with, farmers do not have access to good pyrethrum or to means for its efficient extraction. To recommend excessive dilution, particularly with a soap solution, is to add insult to injury in the minds of those who know anything about pyrethrum insecticides. We wonder what the Food and Drug Administration (that division of the same Department of Agriculture which enforces the Insecticide Act of 1910) would do if any **manufacturer** attempted to market a product such as that recommended by the Bureau of Animal Industry. The F.D.A. would probably run it off the market in jig time.

Frankly, we suggest that it is about time that all departments of government, federal, state, and otherwise, quit passing out so-called information to the public in general until they are certain of their facts, —and until they have really tested out suggested products, and **know exactly** what they are recommending.

FLOOR WAXES

. . . what do specifications n

By Charles S. Glickman

NO DOUBT exists but that the subject of specifications for water emulsion wax polishes is of keen interest to manufacturers and consumers alike. As time goes on, these products tend to become less of specialties and more of standardized items of commerce. For these reasons, it is obvious that an impartial discussion of current requirements, as well as proposed changes, should be in the general interest. A number of manufacturers with whom this problem has been discussed, agree that specifications, whether they be federal, state, local or private, should be so written that they assure the purchaser a definite measure of value received. They should not be too loosely worded,—that is in such a way as to permit the use of inferior wax substitutes for example. Obviously, the time is at hand when manufacturers must eliminate the hocus-pocus from the wax business, and decide on definite and more exact composition of wax polishes, including those sold in small packages to the public, as well as specification products. If not, adverse public reaction due to inferior products will injure the business of all manufacturers.

With these views in mind, therefore, the following discussion has been prepared. Table 1 is a comparison of five typical sets of specifications representing federal, state, association and utility requirements.

The first specification, that of the Veteran's Bureau, is of the customary requirements of solids content, 12 per cent free alkali, water soluble content, drying time, and water resistance. Failure to mention the softening point of the solids or any further details of its composition have been omitted. The presence of rosin and ash content have likewise been omitted.

The next specification, a federal one, covers the matter of solids content satisfactorily, and embraces the matter of softening point of the solids (non-volatile), the ash content, the permissibility of free alkali (none), the water soluble content, water resistance and the matter of odor as well. The drying time is unreasonably short and all mention of the use of rosin has been omitted.

The Rubber Flooring Manufacturer's specifications, the third on the list, likewise covers the matter of solids content, free alkali, water soluble content and water resistance as well as the fact that rosin or other

TABLE 1

VA-S-4 1/15/36	PW-151 4/26/37	R.M.A. 3/15/37	No. W-4 6/26/36	W-6B 5/37	Specification Source and Date
12% (min.)	12% (min.)	12% (min.)	0-6% Soap 11-14% Wax 0-2% 'lac. (min.)	12.5-13.5% (min.)	Non-Volatile Solids Content
X	80° C. (min.)	X	X	X	Softening Point of Non-Volatile Solids
X	3% (max.)	(?)	.5% (max.)	X	Ash Content of Non-Volatile Solids
.15% (max.)	0	0	0	pH—8.4 (max.)	Free Caustic Alkali Permissible
20% (max.)	15% (max.)	20% (max.)	X	15% (max.)	Water Soluble Content of the Dry Applied Film
30 (max.)	10 (max.)	X	20 (max.)	20 (max.)	Drying Time After Application of the Polish (Minutes)
none	none	1% as perfume	X	X	Volatile Solvents Permissible (Perfumes, Etc.)
not objectionable	(same)	X	(same)	free from Ammonia	Odor Permissible
X	X	required negative	barred	required negative	Lieberman-Storch Test for Rosin, Etc.
neg. 2 hours	neg. 2 hours	neg. 2½ hours	neg. 2½ hours	neg. 2½ hours	Water Resistance of Applied Polish
X	X	freedom required	X	X	Driers, Etc. Permissible

Note: The notation of "X" means that the subject is *unnoted* other than is mentioned in the following description and discussion.

...s mean ?

substances yielding a positive Lieberman-Storch test are barred. The matter of softening point of the solids content and drying time are omitted, and the subject of ash content rather indefinitely referred to in the text.

The specifications of the State of Pennsylvania, the fourth in our list, should be noted with interest as we find here a definite requirement (for the first time in our list) as to the identity and relative concentrations of the individual components. The matter of softening point is replaced by definite requirements as to the type of wax to be used, No. 1 Yellow carnauba. The ash content and chemical values of the wax content are controlled as are the drying time and water resistance. No mention of water soluble content is made and no need for any rosin test is present in view of the stated requirements of the polish composition.

The last specification on our list is that of a public utility, the American Telephone and Telegraph Co., Dept. of Operation and Engineering, represents the most modern and logical approach to such methods of governing the quality of a water emulsion wax polish as yet published; although some of us may be inclined to believe that it is somewhat overdone. The non-volatile solids content, water soluble content, drying time and water resistance are similar to the former requirements listed. Freedom from rosin and ammonia odor are required. In addition we find mention of the alkalinity being restricted to a minimum pH value of 8.4 or less, free fatty acids (as oleic) limited to less than 1.25 per cent, the surface tension restricted to a minimum of less than 36 dynes. cm. sq., and the viscosity limited to less than 1.20 times that of water. The stability is tested for by the absence of any gelation after exposure of the sample in a closed container at a temperature of 71° C. for a period of 72 hours, and the factors of freedom from slipperiness and the durability of the product also enter-

Modern floors in modern buildings call for specification products for proper maintenance.

ing into the selection of the desired product.

Let us pause for a moment in consideration of specific requirements as illustrated by the preceding table and turn to Table 2 which is a comparative analysis of five typical formulations employed in the manufacture of wax polishes. So as to fulfill specifically the majority of the requirements of Table 1, the following formulae (based upon standard sources of information) with the exception of two formulae, Nos. 3 and 4 which are based upon the author's own experiments, are reduced to a solid contents of 12 per cent. In the case of No. 5 the presence of rosin will of course make the formulation inoperative. The theoretical raw material costs per gallon are based upon current quotations.

The results obtained by the writer upon testing a typical triethanolamine formulation as described by Formula No. 3 under the methods set forth by the PW-151 (4/26/37) specifications are as follows:—

TABLE 3

Test F-2 .....12.12%
(required a minimum of 12%)

Test F-3 .....82° C.
(required a minimum of 80° C.) solids softening power

Test F-4 .....1.04%
(allowed 3%) ash

Test F-5 .....negative
(so required)

Test F-6 .....negative
(so required)

Test F-7 .....13.13%
(allowed 15%)

Test F-8 .....negative
(so required)

Test F-9a .....positive
(so required)

Test F-9b .....negative
(so allowed)

Test F-9c .....negative
(as allowed) "spreading"

Test F-9c .....positive
(as required) "application"

Test F-9c .....fair
(below requirements) "water resistance"

Test F-9c .....negative
(so required) "wash-off or removal"

(In general, with the exception of the water resistance test, this product would fall within the requirements of the Federal Specifications as indicated by Tables 1 and 2, specifications and formulations respectively. The possible inclusion of an ammonia shellac solution might enable this formulation to pass, although this is doubtful.)

PROCEED to see what awards were made on bids for water emulsion wax polishes. From a publication listing such awards we find the following:—

1—An award made at 34.75 cents per gallon (amount unknown, but probably in excess of 1,000 gallons). 1937, date of award.

2—An award made at 32 cents per gallon on an amount of 3,500 gallons. 1938, date of award. We believe that these bids were made on the bulk product packed in 55 gallon drums (new) and delivered to a point some 200 miles from the place of manufacture. The packaging costs and shipment would of course be included in the bid, making the award price one which includes the cost of the former as well as freight. Without going into further detail, the only formula which could be used would be the ammonia one (the morpholine formulae being excluded on the basis of high raw material costs).

It is our personal belief, that this formula could only be used if the amount of wax were reduced far below what the formula (No. 4) calls for and thereby resulting in a product containing more shellac than wax and consequently inferior grade. We therefore raise the question of why should the specification call for or be entitled a "specification for a water emulsion wax." The fact is that shellac has neither the durability nor the wearing power of wax; it is not self-healing, nor has it the gloss retention of wax. We might just as well go into a fruit store and ask for apples and then accept anything that had the general shape or color of an apple notwithstanding the fact that we were paying for apples while we were accepting tomatoes.

It would therefore appear that the business of supplying products for specification bids goes to that firm capable of producing a product with the greatest degree of adulteration or substitution. This would of course violate the spirit of the specification or its purpose, but perhaps that does not make any difference today in business. Such a condition could indeed be considered as a worthy argument for creating speci-

(*Turn to Page* 107)

TABLE 2

Triethanolamine and Shellac Formula No. 1	Morpholine and Shellac Formula No. 2	Triethanolamine without Shellac but with increasnd Wax Content No. 3	Ammonium Oleate with Shellac No. 4	Morpholine and Rosin Formula No. 5	Type and Details of Formula
13.2	11.2	53.8	13.2	11.2	Amount of Wax
1.5	2.4	6.2	1.3	2.4	Amount of Oleic Acid
2.2	2.2	9.2	2.8	2.2	Amount of Alkali indicated by formula type
1.0 (Borax)	none	4.2 (Borax)	1.0 (NH_4OH)	none	Amount of supplementary Alkali as indicated
132.	112.	600	132	112.	Amount of water
Water—16 'Lac.—2.2 Amm.—.32	Water—15½ 'Lac.—1.5 Morph.—.2	none	Water—16 'Lac.—2.2 Amm.—.32	Water—15.1 Morph.—.6 Rosin—1.5	Amount and type of Gum or Resin (also Alkali and water)
1:8	1:7		1:8	1:7	Ratio of Wax Emulsion to Gum or Resin Solution
3.57:1	2.4:1	3.5:1	3.22:1	2.4:1	Ratio of Wax to Soap excluding additional Alkali, if any
7.8%	7.7%	9.0%	7.8%	7.7%	Per cent of Pure Wax in finished product
25c	33.8c	32.2c	23c	33.8c	Raw material cost per gallon exclusive of labor, etc.

Note 1:—The raw material costs herein stated are approximate ones and are based upon the use of No. 3 Chalky Carnauba, 26° Be. ammonia, technical borax and bleached, refined shellac.

Note 2:—All parts indicated here are by weight.

Some Opinions on
DRIP MACHINES

A SUMMARY of views on the present status of the drip machine business from a number of leading sanitary supply manufacturers was published in the previous issue of *Soap and Sanitary Chemicals*. The opinions were expressed in answer to questions submitted to these manufacturers,—questions such as "are drip machines coming back," "what are the advantages and disadvantages of drip machines," "what odors should drip fluids carry today," "how effective are drip machines as deodorizing agents,"—and questions regarding the possibilities of drip fluids with disinfecting value. Some of the manufacturers in answering the questions went into much interesting detail which it was impossible to include in a summary of opinions. A few of these individual expressions of opinion are included in the following.

A well-known manufacturer in the middle-west had the following to say:

"Personally we believe that drip machines are on the way back, although we do not have a great deal of evidence to prove this. We do know that drip machines received a very serious black eye some years ago with the development of the paradichlorbenzene product as a substitute. I do not believe there is any doubt but what the paradi has advantages and actually does function in a more efficient manner than any drip fluid that was ever put on the market, and probably one of the main reasons why drip machines are coming back, is because the popularity of the paradi product created so much competition that the present wholesale prices today represent such a small margin of profit, and then again, the competition in the distributor angle has also caused him to undersell the other fellow all the time until there is a very small margin of profit made on the large volume of this material that is turned over daily.

Another reason why drip machines became obsolete for a period, was due to the fact that very few had an adequate drip machine. Invariably they were made out of some light weight sheet iron, oxidized or nickel plated, that became unsightly very shortly for two reasons,—first, the dampness in the washroom, and second, the very nature of the drip fluid itself caused the metal to rust. Due to the fact that drip machines were usually figured as a vehicle to sell drip fluid, and most everybody gave them away and nobody wanted to pay any money for a device, the results were that a good device was not generally offered to the distributors. One or two manufacturers who produced their own machine,—their own drip fluid,—made their own sales, did have a good device, and they have continued to maintain a very satisfactory volume, even during the rise of the paradichlorbenzene product.

About two years ago we brought to a head the idea of developing a drip machine that was really a good substantial drip machine. We had thought about it for years, but the demand for low priced products prohibited us from giving any further thought to it, but we decided there was a limited margin for a good machine and we developed it. The sale of that machine has been growing steadily ever since.

It is rather inconsistent to believe that there could be any practical disinfectant value in drip fluid or that any disinfectant quality could be developed for the article. In the first place the method of application, if one used a very high powered disinfectant, would not permit of disinfecting a room. The material is dripped into pure, clean, fresh, running water, and when the toilet or urinal is flushed, the drip is then flushed out through the sewer. It might have some benefit on the sewer itself, but that is not of any advantage to the user of the material. Therefore, disinfectant qualities probably never will be of any particular importance for either blocks or fluid."

A pioneer in the para block business had the following to say:

"Drip machines are fairly efficient as a deodorant, but don't let anyone tell you bright stories about their disinfecting qualities. A moment's reflection will show you that drip fluid does not come in contact with any part of the fixture touched by the human body, so why a disinfectant? Judging by reports I get from our salesmen, the drip machine is not regaining any of its former popularity, the principal reason being that the average drip machine drips three gallons of fluid a year at $1.50 per gallon, and one machine is required for each fixture. Take a toilet room having six fixtures, the cost in drip fluid would average $27.00 per year. The same results could be secured with two sets of blocs at a total cost not to exceed $15.00 per year. Naturally if cost is constantly hammered into purchasing agents' minds, the drip machine appears at a disadvantage. I should say that the drip machine is suitable for any type of toilet where blocs are used excepting where a floral fragrance is demanded."

THE statement of a leading eastern manufacturer gave a number of interesting and significant details regarding the drip machine and its place in modern sanitation. He said: "Are you trying to set off a load of dynamite with your article on drip machines? There are quite a lot of diverse opinions in regard to them.

"First I want to caution you that there was a public health bulletin issued some years ago in which they condemned drip machines. The reason why they were condemned was due to the fact that a large number of people believed that the product had disinfectant properties and because of that they used them. I believe that 95 per cent of the people who use drip machines really believe that they have disinfectant value and for that particular reason they are used. Certainly if the public knew that the products had no disinfectant value, I doubt very seriously whether anyone would use them.

"In my opinion drip machines, the way we know them today, are not the most suitable type of equipment. I would say that a drip machine can be used anywhere where the unsightliness of the copper tubing was not a question. It would be a great deal better if people who were going to install drip machines would install them at the time that the buildings were put up so that the copper tubes could be hidden. Remember, this is the big thing,—the unsightliness of the copper tubing.

"In regard to efficiency, frankly, this is something that has had me puzzled for a long while. There are two types of requirements for the present day drip machine—one, is that it has sufficient volume of open spaces so that there is a definite volatilization of the aromatic material into the room, to give the room an odor. Second, of course, is that the fluid drips into the toilet or urinal and thereby covers one odor with another. In my opinion this is the secondary part of the operation, the primary object being to place an odor into the room,—one which covers one odor with another. That is why I believe that the future of drip machines will in all probability be the dripless type. I do not believe that there is any accurate method of evaluating efficiency between a paradichlorobenzene block in a container and a drip machine. Psychologically and from a selling standpoint, there is a lot of argument for allowing some of the fluid to drop into the so-called base of the trouble but there are certain disadvantages to this. One is, when the toilet is allowed to remain unused over long periods of time, there is liable to be an accumulation of oil on the side of the bowl which will get black and slimy. Therefore, I do not believe that the drip type is as practical as the one where the oil is completely volatile such as in the dripless type.

"I have never heard of any drip fluids on the market today having any disinfectant value. The reason for this is quite obvious due to the interpretation and use of a disinfectant by the Department of Agriculture. As you know, before any product can be used as a disinfectant, the surface which is to be disinfected must be thoroughly clean, so it would be almost impossible to have a drip machine work as a disinfectant. I do not see how it would be physically possible to claim practical disinfectant properties. This was the primary reason for the condemnation of drip fluids by the Bureau of Public Health because they gave most people a false sense of security.

"Then again, all the disinfectants we have today are practically soluble in water in their practical use and I do not believe it is possible to make a drip machine fluid, which would flow through the wick and then be soluble in water, of sufficient value to give a disinfectant. I can conceive of the designing of a drip machine which would dispense material which would be soluble or emulsifiable in water but I doubt very seriously whether you could claim any disinfectant value, even though the product had a phenol coefficient. I have heard tell from some of our men that some firms have represented drip machine fluids as preventing the spread of syphilis, which, of course, is preposterous. I do not believe that with the present range that drip machines are selling for it is possible to make equipment that would dispense an emulsifiable type because of the smallness of the quantity that is used, namely, 32 ounces for one month. This would mean a comparatively small drip and a ventury throat or a valve which would not be clogged up by the material which would oxidize from the air. So that I would say to the question of whether it is possible to make an emulsifiable type that it is highly impractical and I do not believe that it would be possible to ever develop a fluid which had a disinfectant value.

"Is the drip machine regaining any of its former popularity at the present time? I would say that drip machines work in cycles. In the past 15 years, we have seen two or three periodic spurts on drip machines. You go along for a long period of time without selling any drip machines and then all of a sudden, there is a big demand for them. We have that demand at this time but I venture to say that the demand will be dead by next year. The reason for this seems to be when some salesman for an old-line house goes out and forms a new company with the idea of servicing drip machines and putting them in. This starts a craze in a certain center and the thing spreads out, and before you know it, you have a lot of people wanting drip machines. Then just as quick as it comes up, that's how quick it dies down. I think we will always have drip machines in some sense and they will be popular sometimes and die off at other times but my own opinion is that they are inferior to paradichlorobenzene blocks.

"Our own opinion is that drip machines today are on the up-swing, but I look for a decline very rapidly, and the better business gets the less will be the use of drip machines. Drip machines only come into use when people want something cheaper

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than paradichlorobenzene blocks. That is my own candid opinion and I look for better business and consequently a decline in drip machines and fluids."

From an old New England firm comes this opinion: "We believe that the drip machine is staging a come-back, particularly in the better type places. The advances made in design plus the use of agreeable odors in place of the old pungent types which were not suited for use in restaurants or office buildings have broadened the field of prospective customers. Wintergreen has proven to be an exceptionally popular odor in New England. We believe that drip machine fluid of very definite disinfectant value may be developed in the not too distant future. There is no reason why it cannot be developed now that high coefficient disinfectants are readily available as well as the newer wetting agents."

Particular attention is called to the use of the word "disinfecting" in the following expression of opinion from the middle-west. "I am afraid that our opinion on this subject will not have the value to you that you expect, because of our partiality to other means of deodorizing and disinfecting. However, when you consider an opinion from impartial competent sources, the answer will be the same. We do not think that the drip machine solves the deodorant or disinfectant problems in toilet rooms, and are inclined to agree with Thomas R. Crawder, Chief Surgeon, and his conclusions in bulletin No. 32, volume No. 31, in the Public Health Report, published by U. S. Public Health Service. Because of our objection to drip machine as a means of deodorizing and disinfecting, the other questions asked in your letter are naturally void."

Another eastern manufacturer answers and states his views on the subject. He writes: "The drip machine has its place just as does the para block. Both have proved to be fairly efficient as deodorizing agents for toilet rooms. Because of the greatly improved type of drip machines now being installed, we believe that they are staging a comeback at the present time. How long this will last, nobody can say. As for disinfectant properties or claims, we do not think that one person in a hundred believes that he gets actual disinfection throughout a toilet room as a result of the fluid dropping into the urinal or toilet bowl. From all we can see, the wild and untrue claims of disinfection which were so common ten or fifteen years ago, are seldom heard today."

"There has been a change for the better in the odors used in drip machine fluids. The old-time mirbane combinations are being replaced by more suitable types, such as pine, lemon, and even some floral type odors, although the eucalyptus combinations are still much in demand. An improvement in appearance in drip machine equipment, along with better odors, permits use of the machines in places where the old-fashioned bad-looking devices were never used."

From a leading drip machine pioneer came the following which gives his present-day views on the subject: "The most popular odor of drip fluids today is a sweet smelling pine oil, although some of the old-fashioned odors, based on oils of mirbane, eucalyptus and a mixture of other essential oils, are still used. There are no restrictions in the applications of drip machines, because they can be used in any type of toilet or urinal. However, toilets in a private home do not need an installation of drip machines, because the odor would be found too pungent. On the other hand public or private toilets in office buildings, institutions, hotels, restaurants, hospitals, schools and factories are the general type of customers needing the drip machines, because a large number of patrons use such premises continuously.

The function of the drip machine should still be confined to its deodorizing purpose, because claims for a drip fluid with real disinfecting properties would probably never be sanctioned by government authorities in Washington. Their main objection would probably be that a mere discharge of such a drip fluid consisting of about one-quarter gallon, which is the monthly quantity for a drip machine, into a sewer system, together with the high dilution with water caused by continuous daily flushing, would not be considered of sufficient strength to kill or inhibit the growth of micro-organisms irrespective of any coefficient that such a drip fluid may possess.

The proper functioning of a drip machine depends on the capillary action of a wick, and experience has proved that a high testing drip fluid of aqueous nature or of emulsion type would not work satisfactorily. The average drip fluids are insoluble in water and, therefore, ideal for deodorizing purposes, but this fact of insolubility in water would be the main drawback for a real disinfectant. We have marketed a water-soluble drip machine fluid for over ten years, which possesses a coefficient of about 2.5, but we have never sold it with a coefficient claim on the label for reasons mentioned above. However, the manufacturer of drip machine fluids should caution the customer by stating on the labels of his products the necessity of adding a reliable disinfectant to all water used for washing, mopping, scrubbing and sprinkling of walls, floors, cellars and rooms, in order to insure sanitary cleanliness.

The following quotation from a letter on this subject written ten years ago, is interesting: "If some unscrupulous manufacturers who market automatic drip machines, with the view of making the public believe that they are selling them a disinfecting device, which will prevent contraction of communicable diseases, then it is the just duty of the health officers to point out to the public such fraud, but when a conscientious manufacturer sells these devices for the purpose they should be used as an automatic deodorizer, the health officers have no objections. The drip machine has many advantages over other means of deodorizing methods, such as cakes and crys-

(*Turn to Page* 109)

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STOCK SPRAYS--

. . . some comments and conclusions

By E. M. Searls and F. M. Snyder*

FLIES continue a serious problem for the dairy farmer. Not only do they bite and annoy domestic animals, but they spread contamination in the milk house and on milking utensils. The best way to combat them is to practice sanitation and destroy their breeding places. Where this is not possible or feasible, the fly problem becomes serious. Then chemicals, in the form of insect sprays are best used to hold them in check. In Wisconsin, and other parts of the middle west, two types of flies are commonly found around dairy cattle. One kind is the housefly type which has lapping mouth parts. These flies cannot bite and seldom annoy the animals seriously, but they can be serious carriers of disease and contamination. The other type has piercing and sucking mouth parts and draws blood from the cows. The bites of these flies are painful and they cause the cows to switch and kick. Sometimes they give the dairyman painful bites as well.

The stable and the horn fly have piercing mouth parts and are the two most common species of cattle flies in Wisconsin. Stable flies breed in decaying vegetable matter. Their favorite breeding places are in moist straw, about the edges of straw stacks, and in bunches of moist straw wherever they can lay their eggs. Stable flies may be controlled by destroying their breeding places. These flies go to the cows only when they are hungry and usually feed with their heads toward the top of the animal. Stable flies seldom enter dark stables. They enter well-lighted stables freely and in darker stables often feed upon the cows which are near the open doors and windows.

Horn flies breed in fresh cow manure either in the pasture, barnyard, or other places where the fresh manure is allowed to remain. There is little chance of controlling horn flies by sanitation. These flies remain on the cows continuously, leaving only to lay their eggs. They are smaller than the stable fly and usually feed with their head toward the ground.

House flies stay in the stable or near the buildings most of the time. They breed in decaying animal and vegetable matter. The manure pile is one of their most common breeding places. They may be held in check by destroying such breeding places. These flies may be known by their habit of hurrying about on the animals or other feeding places with their tongue flicking rapidly out and in as they go.

Studies by previous investigators have shown that horn flies seldom occur in sufficient numbers to affect milk production or the health of the cows noticeably. Stable flies, when found in great numbers, may reduce milk production and affect the health of the cows. In ordinary numbers, however, neither the stable fly nor the horn fly have been found to affect the animals beyond annoying them and causing them to switch and kick. Even though

* Based on a three-year fellowship study at the University of Wisconsin by the authors for John Powell & Co.

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these flies are not numerous enough to injure the cows or affect milk production, it is often desirable to control them. A well chosen fly spray carefully applied to the cows before milking will usually reduce the kicking and switching caused by biting flies. This will reduce the danger of injury to the dairyman and his milking equipment, make the cows easier to handle, and aid in producing cleaner dairy products. It will also help to reduce the number of house flies.

Type of Spray to Use

MOST of the cattle fly sprays used today are of the oil-base type although a few oil emulsion type sprays are available. These sprays are sold as concentrated oil emulsion which is diluted with water before use. They have not come into general use however, and this study deals only with the oil base type.

There are two types of oily sprays generally used against flies. One type contains a light oil which evaporates quickly and is active for only a short time. This type is used to kill flies in the house, stable, milk room, or other closed area. (The oil used in these sprays is a kerosene type and has a viscosity of about 33 seconds Saybolt test.) The other type contains a heavier oil which evaporates slowly. This type of spray is used to keep the cows free from flies in the pasture. Both types contain an insecticide which kills or repels the flies which come in contact with it. Pyrethrum extract is generally used for this purpose. Lethane is used frequently either alone or combined with pyrethrum. Many cattle sprays contain additional materials called repellents which are intended to drive flies away from the animal or object sprayed.

The dairyman should choose a spray which will suit his purpose best. If he wants a spray which evaporates quickly but which will kill house flies about the milk plant and keep the cows free from flies during milking, he should choose a light-oil type spray which contains enough insecticide to kill the flies which it hits. Some sprays contain only enough insecticide to stun the flies for a while. They soon recover and are about as numerous as before. The light-oil base of the spray should be a refined oil which is not apt to injure cows or to leave oily stains on the objects sprayed. When the spray is to be used in a room where milking utensils are exposed, or near milking time, it is better to use an odorless spray or, at least, a spray which will not leave a foreign odor in the milk or milk product.

A light oil type spray which evaporates quickly is not apt to leave objectionable residues on the walls of or equipment in the milk plant. It is also less apt to injure the cows, particularly if they are sent out of doors soon after spraying, or if they remain in a ventilated stable. Excessive application of light oils may injure cows, however.

When a heavy oil-type spray is used to protect the animals in the pasture, special care should be taken in choosing spray material. This spray must remain on the animals for several hours to be effective, and there is thus greater danger of damage if the spray contains injurious materials. This type of spray is not to be recommended unless it is necessary to protect the cows in the field. There is too much danger of injury to the cows if the spray is not made of the proper materials, or if too much spray is applied. Exposure to hot sun after a heavy application of heavy oil has been known to injure cows severely. Heavy oil type sprays should not be used in the milk plant. The oil evaporates slowly and might leave an objectionable covering of oil which would collect dust and might taint milk.

When the cows are milked about daylight in the morning it is seldom necessary to spray before the

(*Turn to Page* 111)

Conclusions on milk-barn FLY CONTROL *after a three-year study of the problem.*

Sanitation is the best method of control.

Sprays are apt to do more damage than good if carelessly applied or if inferior sprays are used.

Under average Wisconsin conditions, there are seldom enough cattle flies in the pastures to justify the use of heavy-oil type sprays on the cows.

Sprays with a refined kerosene base, and enough insecticide to kill flies when hit, are effective in clearing the milk plant of flies and other insects, and in keeping cows free from flies during milking time.

The manufacturer's guarantee usually means a great deal. Look for it when you buy.

Sprayers should be tested with the spray to be used. A good spray cannot do good work when used with a sprayer which is not properly adjusted to it.

Home-made cattle fly sprays are not to be recommended generally.

Strong smelling sprays should not be used where milking utensils are exposed, or just before milking time.

In the early morning it is seldom necessary to spray cows for biting fly control before the morning milking.

Follow the manufacturer's directions for the use of the spray.

Cold Sterilization

A method for the bacteriologic testing of chemical solutions used for "cold sterilization" of surgical instruments.

By Dr. George F. Reddish* and Ella M. Burlingame

Lambert Pharmacal Company

THE present Food and Drug Administration method[1] for testing the germicidal efficiency of chemical solutions recommended for surgical instruments is satisfactory for determining disinfecting power, but it is not a test for complete sterilization. The method used by the Food and Drug Administration for this purpose is designated as "Phenol coefficient technique—S. aureus 20°C." and is employed for "Preparations for surgical instruments." While this method serves a useful purpose in separating those preparations which will kill non-sporing pathogenic organisms from those which will not, it cannot be used for products which are recommended for the complete sterilization of surgical instruments.

The Food and Drug Administration method of test, however, is usually adequate for the purpose intended and germicidal solutions which pass this test kill all the infectious microorganisms usually present on surgical instruments. For all practical purposes those germicides that pass this test are usually quite satisfactory for the "cold sterilization" of surgical instruments since pathogenic spore-formers are rarely present on such instruments. When a germicide is recommended for complete sterilization, however, it must actually sterilize and therefore must be capable of killing all forms of life including spores[2]. Even though in practice this is not usually necessary, from the standpoint of enforcing federal laws regulating such products, it becomes obligatory to test these preparations for their ability to kill spores.

Instrument "sterilizers" in which boiling water is employed have been and still are proving quite satisfactory for the practical sterilization of surgical, dental, and veterinary instruments. A recent survey of hospital practice in this country[3] showed that surgical instruments are sterilized by boiling in water for time periods varying from 15 to 40 minutes, in most instances boiling for 20 minutes being the accepted practice. Wheeler[4] has found that catheters are sterilized by boiling water and also recommends this method for sharp instruments as well. Bartels[5] found boiling water satisfactory for the sterilization of dental instruments, and Martin[6] reported that boiling water even without the addition of chemicals is quite adequate for sterilization of surgical instruments. In fact the Council of Physical Therapy of the American Medical Association this year found acceptable and gave its official approval to an instrument sterilizer which makes use of boiling water[7]. Experience covering over half a century has proved that boiling in water is satisfactory for the practical sterilization of surgical instruments.

Since heat is objectionable for the sterilization of sharp instruments, chemical solutions for the "cold sterilization" of such instruments are now widely used. Post[8] recommends a combination of alcohol, liquor cresolis compositus, chloroform, and albolene for this purpose and has found it quite satisfactory. Lawrence[9] found hydrogen peroxide and alcohol satisfactory for this purpose and over a period of years experienced no infections from surgical instruments sterilized by this means. Devereux and Mallman[10] used sodium and calcium hypochlorite in hot water for the sterilization of drinking glasses and found them quite satisfactory for this purpose. Other germicides, such as mercury compounds, formaldehyde in alcohol, etc. have for years been successfully employed for the sterilization of instruments by the surgeon, dentist, veterinarian, etc. and such chemical solutions are now generally used for this purpose. Some of these germicides, however, do not kill spores and do not actually "sterilize", but since spores, either pathogenic or non-pathogenic, are seldom found on such instruments in significant numbers these germicides when used in practice do render the instruments sterile.

Although from a practical standpoint boiling water and certain chemical solutions are effective for sterilizing instruments, there is a need for a laboratory method for testing those germicides which claim to actually sterilize, that is, kill spores. The present study was undertaken to supply such a test. The test which we have developed is simple, prac-

* Address before the 25th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec., 1938.

tical, and severe and is considered applicable for this purpose.

Contaminated instruments were first tested to determine the numbers of spores present under ordinary conditions of use. A total of thirty surgical, dental, and veterinary instruments were tested for spores after use in regular practice. In addition, twenty safety-razor blades were contaminated under exaggerated conditions with floor dirt and then spore counts made. The numbers of spores present were determined by placing the instruments in melted agar, heating at 80°C. for 10 minutes, plating, and incubating at 37°C. for 3 days. A few additional instruments were plated in the same way without heating in order to determine total counts of all organisms present. The following results were obtained: The surgical instruments tested gave an average spore count of 2 per instrument, the dental instruments an average of 1, the veterinary instruments an average of 5, and the razor blades an average of 2. The average number of spores on all instruments and razor blades was 2. The maximum number of spores on any one instrument was 9. The average total count of all organisms per instrument which had not previously been heated at 80°C. for 10 minutes was 81. It is evident from this study that the numbers of spores on contaminated instruments is so small as to be almost negligible. In spite of this it is desirable that a germicide recommended for the complete sterilization of instruments should kill larger numbers of spores than are usually found on contaminated instruments in order to provide for a margin of safety.

Based on these findings, the following method of test is recommended:

Grow *B. anthracis* on nutrient agar slants of the following compositions: 1 per cent Armour's peptone, 0.5 per cent Liebig's beef extract (Lemco), 0.5 per cent NaCl, 1.5 per cent agar in distilled water, adjusted to pH 7.4. After incubation for 5 days at room temperature suspend the growth in sterile water and adjust to Nephelometer 2. Count the spores in this suspension by the Breed and Brew method. Heat at 80°C. for 10 minutes. Dilute with sterile water until 1 c.c. contains approximately 1,000 spores. Add 0.1 c.c. of this suspension (approximately 100 spores) to the surface of a single-edge safety-razor blade (Eveready type) with plane unbroken surface 1½ x ¾ in. (3.9 x 2.0 cm.), (which has first been cleaned to remove oil) and allow to dry. Control plate counts to determine the numbers of spores present on each blade are made as follows: place one of the inoculated and dried blades into 20 c.c. of melted agar which has been cooled to 45° C., shake gently for 2 minutes, and plate; incubate for 3 days at 37°C. and count. One-tenth cubic centimeter of a 1-1,000 dilution of spore suspension of Nephelometer 2 density contains approximately 100 spores. Place the dried razor blade into a sterile 100 c.c. beaker (inside diameter at least 4.5 cm.) and cover with 10 c.c. of the germicide being tested. Expose to the action of germicide for 10, 20, and 30 minutes at 20°C. At the end of these time periods remove the blades with sterile forceps and rinse for 2 minutes in 20 c.c. of sterile nutrient broth of the above composition contained in a test tube 4 x 1 in. (inside diameter). After rinsing to remove the excess germicide the blades are transferred by means of sterile forceps to 20 c.c. of sterile broth in 4 x 1 in. tubes and both sets of tubes incubated at 37°C. for 3 days. Those subculture tubes showing no growth at the end of this time period are then inoculated with a culture of *B. anthracis* and incubated for another 2 days. This precaution is taken to make sure that there is no inhibition of growth in the second subculture tube. A satisfactory sterilizing solution should kill *B. anthracis* under these conditions within 20 minutes.

A 20-minute time period is selected since this is the usual time employed for heat sterilization with boiling water and which is usually specified for chemical solutions used in "cold sterilization." Preparations passing this test within 20 minutes should specify that this time period be used for the practical sterilization of instruments.

One important feature of this proposed test is the number of spores employed. Since the test must simulate practical conditions as nearly as possible and yet offer a satisfactory margin of safety, the use of 100 spores is suggested. This is a 1,000 per cent margin of safety. This is based not only on the numbers of spores found on ordinary contaminated instruments but also on the numbers of spores found on instruments after autopsy of laboratory animals which have died following infection with *B. anthracis* and *Cl. tetani*. Spaulding[11] found in one set of tests less than 45 spores per knife blade used in the autopsy of animals experimentally infected with *B. anthracis* and *Cl. tetani* and in another set less than 9 spores per knife blade. Although a total count of all organisms per knife blade as high as 58,600 was obtained on these instruments there were no spores in the dilutions plated, namely, 1-9 and 1-45. This is to be expected since spores of these organisms are not usually present in infected animals. Since only vegetative cells are present on such infected instruments and since spores are not found in large numbers, if at all, it would be illogical to use excessively large numbers of spores in a test for sterilization such as is described here.

This method of test is simple, severe, practical, and is suited to the testing of all kinds of chemical solutions which might be suitable for the "cold sterilization" of surgical instruments. The results can be interpreted directly into terms of practical value, since those solutions passing this test will completely sterilize contaminated surgical instruments under practical conditions of use.

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Floor Waxes

(*From Page* 92)

fications which assure the purchaser of a product of merit and not a "masterpiece of substitution."

However, since that seems to be the trend, we are going to propose several methods of adulteration and also a set of specifications which will insure the acceptance or creation of a product of merit.—a water emulsion wax (with the emphasis on the wax) which will have wear and water resistance, a proper balance of wax and shellac, a minimum amount of alkali, a high degree of initial gloss and comparative freedom from slipperiness. Let us therefore turn first to adulteration methods.

A specification such as has been issued by the Federal Government in April, 1937 bars neither rosin, gums nor any other substances having softening points of 80° C or above. Why therefore should anyone trouble himself with a raw material, shellac, costing upwards of twenty cents per pound when rosin, manila gum, pontianak, casein, albumen, gelatine, glue and a variety of other substances are available, all cheaper than shellac? And have either higher softening points than are required or else are non-melting or softening upon test. All that is required is the proper amount of alkali to bring them into solution. They are all quite glossy and hard, although brittle, as is shellac. In certain cases, the ash content may be somewhat higher than what is allowed, but we think not.

We also think that at this point some mention about the amount of available ash present in shellac as well as the softening point of the latter might be of some interest. The *bone dry* shellac has a softening point of from 76-80° C. and an ash value whose maximum is 1 per cent under general conditions. The *refined and bleached* shellac has a softening point ranging between 70-77° C. and an ash value of about .3 per cent under general conditions.

Refer to our Table 2 and also Table 3. We find formula No. 3 having a ratio of wax to soap of 3.5 to 1. The softening or melting point of pure carnauba is from 84-86° C. By mixing it with approximately 1/3 its weight of soap, a comparatively *soft* product having an extremely low melting point we only reduce the composite melting or softening point to 82° C. This would therefore logically lead to the conclusion that perhaps as high as 85-90 per cent of the wax could be replaced by shellac, etc. and still yield a melting point or softening point well within the range of the specification requirements. Natural products such as casein or albumen, etc., having no softening point would not even have that effect.

A quality specification, based upon a close study of performance qualities of various commercial brands of water emulsion waxes and whose results were covered in part in a preceding article in *Soap* under the title of "Evaluation of Modern Wax Polishes." October and November, 1938, should contain the following provisions:—

(A) A minimum solids content of 17 per cent as estimated by the same method of evaluation prescribed in the PW-151 federal specifications of 4/26/37. This solids content to be subject to the following provisions:

(A-1) That the total solids content as afore indicated and determined contain not less than 10 per cent of carnauba wax, and

(A-2) That shellac be permissible but in a ratio of not greater than 10 parts of wax to 3 parts of shellac by weight, and

(A-3) That no rosin, casein, gelatine or glues or other products or substances having no melting or softening points as determinable by the ring and ball test prescribed in the aforementioned specification (PW-151) be permitted to be a part of the solids content, or

(A-4) Any material or substance yielding a positive Lieberman-Storch test as tested for in the prescribed method to be found in the specifications of the R.M.A. (No. 3 in the preceding Table 1) be likewise permitted, and

(A-5) That the wax to be present in the solids content yield satisfactory acid, saponification and melting point results comparable with accepted standards for carnauba.

(B) That the ash value of the non-volatile solids content, as estimated in the PW-151 specification, yield a percentage not exceeding 1.25 per cent.

(C) That the free alkali as determined by the aforementioned Federal Specification (PW-151) tests be below .5 per cent and/or

(C-1) That the pH value of the water emulsion wax polish be below 8.5 as determined by some suitable and standard method.

(D) That the product be free of any odor of ammonia, perfume or pine oil.

(E) That the product have a drying time of not longer than 20 minutes as determined by the conditions and tests set forth in the PW-151 specification.

(F) That the water soluble content of the dried and applied film of the polish be less than 13 per cent as determined by the tests and methods set forth in the aforementioned federal specifications, and

(F-1) That the polish applied and tested in accordance with the methods set forth in the aforementioned specification indicate a positive water resistance after ex-

posure for a period not less than 2 hours.

(G) That a mechanical determination of the degree of gloss be made under conditions and methods utilizing the sensitivity of a photoelectric cell together with a suitable constant source of light, a uniform and controlled method of application of the sample to a black surface, and a registering device in the form of a galvanometer. (Note) Such determinations were made on such an instrument and the results described in the article "Evaluation of Modern Wax Polishes." *Soap*, October and November 1938.

(H) A test for wear or durability of a water emulsion wax polish to be made by any suitable method which can be carefully controlled such as the following wherein the polish is applied under standard conditions of amount and coverage on a standard black surface, allowed to dry and then subjected to the action of a definite amount of sea sand allowed to impinge on the coated surface from a controlled height and through a measured and predetermined or standardized orifice from a standardized size and shape container or receptacle. The wear to be then determined by the resultant reflection value of the abraded surface under a photoelectric gloss test.

(I) A test for slipperiness to be made by any standardized or controlled method of evaluation of which the following is an example. A wooden panel or linoleum, etc., panel is coated with a controlled and definite amount of the sample, and fitted with a device whereby one end of the panel may be gradually raised so as to create a slanting surface. The degree of slip to be ascertained as that angle at which a weighted object whose under surface (the surface in contact with the dry film is lined with leather) will start to slide and cover a distance which may be selected as ½ of the length of the inclined panel.

We would further state that in the event that products whose properties are not of importance and whose performance under actual conditions is not of importance, that suitable mention of the adulterants allowed be made so as to afford an equal opportunity to all manufacturers.

Drip Machines

(*From Page* 97)

tals, because the fluid is contained during the whole functioning period in an air tight container and only so much of the material is released, as the machine spends drop by drop into the bowl and thereby you have always a fresh supply of deodorizing material, whereas with other systems such as mentioned above, the whole deodorizing agent is exposed at once to the air during the period of the functioning of the apparatus and often the odor is too strong.

The purpose of regular and continuous discharging automatically day and night of a certain amount of deodorizing fluid is a good and necessary one, because odors of all kinds are generated by decomposition of organic matter in toilet rooms which cannot be overcome by any other means but charging the air with deodorizing vapors by slow evaporation, from an automatic appliance. The advantages of the dripping into the bowl are to a large extent mechanical inasmuch as this dripping will form an oily coating on the inside of the bowl and prevent to a great extent the spattering of fecal matter or urine that comes in contact with this surface.

If one could rely on the work of janitors and other employees who have charge of toilet rooms to scrub or mop the floors and places near seats and urinals thoroughly and conscientiously, once or twice a day, with a reliable disinfectant solution, the automatic appliance would not be necessary, but this is seldom the case."

Another manufacturer of drip machines has the following to say: "The drip machine is the most practical, least costly, and most efficient machine for putting a deodorant at the place where it will be most effective in the elimination of obnoxious odors which would otherwise make very necessary public toilet rooms a place to be shunned. The drip machine must necessarily be a stoutly constructed device capable of taking abuse under careless handling, and be proof against tampering by vandals.

The fluids must be perfumed with lasting odors of a pleasing nature, and this is possible today as a result of the new developments by many of the essential oil manufacturers who have available a variety of pleasant effective odors. The day of creosote type odors is past, and deodorants have followed the modern demand for pleasant things.

The modern drip machine has taken on a new appearance, and its newer design follows that of other fixtures found in lavatories harmonizing with the room and its other necessary fixtures. It is consequently no longer an ugly looking device disturbing an otherwise well harmonized lavatory. The cost of the drip machines is relatively low, they have a long life, and are of such capacity as to require only monthly attention. The cost of maintenance, that is of the fluid deodorant, is consequently also relatively low, with an upkeep of about 40 to 50 cents per month. While the problem of deodorizing is great enough in temperate climates, it is doubly so in tropical countries, and we find that export sales are increasing."

Germicidal Compound

A germicidal compound is produced by the reaction of a mercury compound of the general formula RHgX, with a sulfonic compound. In the formula R is an organic radical and X is a hydroxyl or an acid radical. The final product contains an RHg radical attached to an oxygen atom of a sulfonic radical. Oakite Products Inc. Canadian Patent No. 376,798.

Mothproofing

THE problem of mothproofing keratinous materials such as wool and hairs is of interest to textile manufacturers as users and to chemical manufacturers as producers. A consideration of properties leads to the following as the requirements of an ideal mothproofing agent.

(1) It should render keratinous materials resistant to attack by moth grubs.

(2) It should not damage the fibers.

(3) It should be colorless and not develop color on standing.

(4) It should have no adverse effects on subsequent processing.

(5) It should not alter handle,—improve it, if possible.

(6) It should be permanent, —fast to washing, light, rubbing and dry cleaning.

(7) It should not be harmful to human beings.

(8) It should be simple to apply.

(9) It should not be hygroscopic.

(10) The cost of application should be low.

None of the compounds so far studied seems to meet all of the ideal requirements. A really effective use of naphthalene and paradichlorobenzene requires that the goods be kept in air-tight containers, which often is inconvenient. The effect of spray materials such as a mixture of gasoline and carbon tetrachloride, and fly-sprays, is not permanent and application must be renewed at frequent intervals. Sodium silicofluoride is somewhat more permanent but its potency is reduced considerably by washing, rubbing and dry cleaning. Also it has a tendency to leave white marks on dark cloths when the latter are rubbed, and to alter the "handle" of the goods.

Eulan N, Eulan CN and Eulan NK, developed by the I. G. Farbenindustrie resemble dyes in chemical nature. Eulan N is a colorless acid dye and is applied from an acid bath in exactly the same manner as an acid color. It contains no chromophore but has an affinity for wool fiber and renders the keratin unfit for consumption by moth larvae. Although these products are fast to light, washing, etc., they are expensive.

A double salt of chromium fluoride and sodium antimony fluoride has been found fast to washing and inexpensive but has not yet been applied on a commerical scale.

A theoretical consideration of the problem may lead to yet further developments. The ability of the clothes moth to digest keratins depends on the secretion in the digestive system of a proteinase together with a reducing agent of the thiol type. The proteinase itself is unable to degrade the keratin, but can only act after the wool has been reduced by the thiol compound. Since animal hairs are composed of long peptide chains linked by salt and sulfur linkages of the type R-S-S-R, it is probable that the first process involved in digestion is a fission of the sulfur link by the thiol compound. The modified protein is then attacked by the proteinase enzyme and is degraded into products sufficiently simple of assimilation by the grubs. If the hairs can be treated in such a manner that one of the above reactions is prevented, the keratin should be immune to attack. On these grounds, in addition to impregnation with actual poisons, it may be possible to treat the fibers with a reagent capable of preventing fission of the -S-S- links or to modify this linkage so as to render it stable to the reducing action of the thiol compound. C. S. Whewell. *Chemistry and Industry* **57,** 1143-6 (1938).

In connection with the determination of rotenone by different commercial methods, results obtained by the author's cold chloroform process are compared with those by a short-time extraction process with carbon tetrachloride. The latter is carried out as follows: 50 grams of fine powder, passing 60-mesh at least, are extracted with carbon tetrachloride for six hours in a Soxhlet apparatus, after adding 0.34 gram of rotenone-carbon tetrachloride complex. The carbon tetrachloride is distilled off until 40 cc. remain. This is dealt with as usual.

With derris roots and cube roots the former process, and with timbo and barbasco the latter process, usually gives higher results. It is suggested that the best procedure for commercial purposes is to assay derris by the cold chloroform process, and other roots by both processes, taking the higher result as being nearer the truth. W. M. Seaber. *J. Soc. Chem. Ind.* **57,** 372 (1938).

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Esters of saturated higher alcohols with saturated higher aliphatic acids are treated in an inert solvent with a sulfonating agent under such conditions that the esters are saponified and the liberated alcohols are sulfonated. I. G. Farbenind. A.-G. German Patent No. 664,176.

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Stock Sprays

(*From Page* 101)

morning milking. The flies, except horn flies, do not become active until about three hours after daylight. In the vicinity of Madison, Wisconsin, most stable flies do not become active until about nine o'clock in the morning. When the heavy oil type of spray is used, the animals should be sprayed just before they are sent to the pasture. Careless spraying with a highly scented heavy oil before milking might give the milk an objectionable odor. Spraying for house fly control in the cow stable, or in rooms where milk or milk products are handled, may be done wherever necessary if the light oil type spray is used. It is better to do this, however, when no

milk products are exposed, and some time before milk utensils are to be used. This length of time depends on the amount of ventilation in the room and the amount of spray applied. A 15 minute wait in a well-ventilated room is usually sufficient if the spray is not too heavily scented. When biting flies enter the stables freely, or come in with the cows, the cows should be sprayed as soon as they are brought in.

Cattle fly sprays are best applied by the hand-type or electric atomizer sprayer. The usual pressure-type sprayers are not adapted to this purpose. Most of the atomizer type sprayers on the market today are made to apply the light-oil type spray. The most satisfactory sprayers are those which can drive a cloud of spray directly to the ceiling and corners of the room where the flies usually rest. Eight to ten feet is usually enough. These sprayers seldom work well with heavy oil, but there are a few sprayers available which will put the heavy oils on well. Sprayers used for this latter purpose should be tested with the spray to be used. A good way to test a sprayer is to direct some spray at a piece of brown wrapping paper at a distance of three to four feet. If the paper is wetted quickly with small even sized drops the atomizer is satisfactory. Otherwise the atomizer will have to be adjusted, if possible, to the spray used. If the atomizer is not adjustable, it should be replaced. The effectiveness of a good spray can be ruined by a sprayer which does not put it on well.

How to Spray

WHEN a light oil for general house fly control is used, the spray should be directed at the walls, ceiling, and corners of the stable, milk house, or creamery. A good spray will then kill the flies resting on the walls and ceiling, and other flies in the room as it falls.

Heavy oil sprays are expected to keep the flies off the cows in the pasture, and the cow should be covered with spray so that the flies cannot alight on the cow without touching a sprayed part. The least possible amount of spray which will cover the cow with a thin film of oil should be used. Light oil type sprays should be applied in the same manner. Oil sprayed over the backs of cows simply drifts away and the cows get no benefit from it. On the other hand, care should be taken not to place too much oil on a cow. Cows can be severely injured and even killed by excessive or careless spraying. This is particularly true when heavy oil is used. Such a spray can do far more damage than the flies which it was intended to control. About one ounce was the least amount of spray which would cover a cow using a carefully adjusted sprayer. Some of the cows used in the test showed skin injury when one and one-third ounces of a heavy oil spray per cow was used at each spraying.

Most of the large oil companies and many reputable spray manufacturing companies make sprays of both heavy and light types. These are usually available at gasoline stations, from seedsmen, or from traveling salesmen who have routes through the rural areas. Most commercial sprays are carefully compounded by experts. Some are guaranteed by the manufactureres either to kill or repel flies or both, and not to injure cows when applied according to directions. Not all sprays are guaranteed. Home-mixed sprays cannot be guaranteed. A dairyman who injures his cows with a home-mixed spray has no source of redress.

Home-made sprays are usually more expensive than commercial sprays of equal quality. Dairymen buying in small lots cannot, as a usual thing, buy oil or an insecticide as cheaply as large manufacturing companies buying in quantity. Great care must be taken in selecting an oil to be used in a cattle fly spray particularly if planning to make a heavy oil spray to protect cows in the field. Oils used in cattle fly sprays must be refined to remove most of that part of the crude oil which injures the skin. Distillates and crank case drainings should not be used. The spray used in our tests injured some of the animals even though it was a refined oil *intended* for a cattle fly spray. This injury did not noticeably affect milk production or the health of the cows, but it is probable that if the injury had been more severe and extended over a greater area, some noticeable damage would have resulted.

Five per cent standard 20 pound pyrethrum extract containing 2.5 per cent pyrethrins by weight was used in some of our test sprays. Four per cent of Lethane also kept the cows free from flies for a similar period when used in the same oil. The cattle fly spray base oil was obtained from one of the large oil companies and was what is known as a mineral seal oil. In this case it was found that in this mixture pyrethrum alone would both kill the flies it hit and keep flies off the cows. Flies alighting on sprayed cows quickly flew away probably because they could not stand the irritating action of the insecticide upon their feet. Some manufacturers use strong smelling materials as repellents in addition to the insecticides in their sprays. This was not necessary with the mixture recommended here. The danger of strong smelling repellents which might taint milk was avoided. An effective and relatively odorless light oil type spray was made by mixing five per cent of the pyrethrum extract mentioned into a highly refined kerosene oil.

As a result of these studies, it has been concluded that for average Wisconsin conditions where about ten stable flies and forty horn flies may be found on one side of a cow at one time in the pasture, it is not advisable to spray with heavy oil base sprays. If unusual numbers of flies occur and the cows are actually suffering from their attacks, the use of this type of spray may be advisable. The effective use of a good light oil base spray in the cow stables and rooms where milk is handled is usually quite worthwhile when house flies are troublesome.

News.....

West Disinfectant Officers

George H. Heuer, formerly assistant secretary of the West Disinfecting Co., Long Island City, N. Y., pioneer manufacturers of sanitation supplies, was recently elected to succeed Joseph R. Oppenheimer as secretary of the company. James E. Marcuse was elected vice-president and treasurer. Mr. Oppenheimer who died last Dec. 19, was associated with the firm since 1910, and was for many years secretary and treasurer. Mr. Heuer has been connected with the company for over 35 years. M. M. Marcuse is president of the West company.

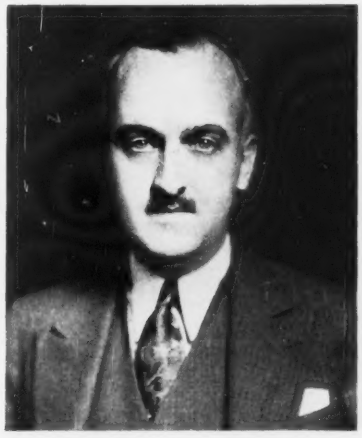
NAIDM Issue Bulletin

A digest of the new Federal Food, Drug and Cosmetic Act has recently been issued by the National Association of Insecticide and Disinfectant Manufacturers. The bulletin was prepared by Dr. H. C. Fuller, technical consultant to the association, and is a summary of the salient features of the law insofar as it may possibly affect the products of insecticide and disinfectant manufacturers.

Drug Dinner March 9

There will be a large attendance of insecticide and disinfectant manufacturers at the 14th annual banquet of the Drug, Chemical and Allied Trades Section of the New York Board of Trade the evening of March 9. Speakers will be Dr. Thomas Parran, Surgeon General of the U. S. Public Health Service, and Roy W. Moore, president of Canada Dry Ginger Ale, Inc.

The board of governors of the national association of insecticide and disinfectant manufacturers has scheduled its meeting in New York for March 9 and the entire group will stay over for the dinner. A number of tables have been reserved for the group and receptions will be held by various associate members, including S. B. Penick & Co., Magnus, Mabee & Reynard, Inc.,



William D. Barry

R. J. Prentiss & Co., and John Powell & Co.

William D. Barry, New York manager of the Mallinckrodt Chemical Works, was recently elected chairman of the Drug, Chemical and Allied Trades Section of the New York Board of Trade. Ralph E. Dorland, eastern manager for Dow Chemical Co., was elected vice-chairman. Mr. Barry, who was vice-chairman of the section, succeeds the late Charles E. Kelly, president of Hagerty Bros. & Co., who died recently.

Sanex In Larger Quarters

Sanex Products Co., Chicago, after re-capitalizing, has moved to larger quarters at 221 E. Cullerton St., and intends to extend into the jobbing field together with its direct to the user business. Three new salesmen have been added to the staff.

Apex Decides Location

Apex Soap & Sanitary Corp., who had been reported in the January issue of SOAP, as moving to Bausman street, Pittsburgh, has abandoned plans in that direction and has acquired a permanent location at 1118-28 Island Ave., McKees Rocks, Pa., near Pittsburgh. It consists of approximately 1¼ acres of ground between the main thoroughfare and the P. & L. E. Railroad, having several buildings, the main one being a two-story modern factory building size 100 ft. by 100 ft., together with a separate two-story office structure. The new plant has greatly improved facilities for manufacturing and servicing the company's growing business.

Puritan Labs. Bankrupt

Puritan Laboratories, Ltd., Toronto, Canada, manufacturers and distributors of disinfectants, soaps, and sanitary chemicals, were recently declared bankrupt and stocks, plant and equipment sold at public auction on Feb. 22 by Butler & Co., Toronto public auctioneers, upon orders of G. S. Holmsted, trustee. The buyer was a Mr. Allison of Kitchener, Ontario, and the assets were reported bid in at thirty-seven cents on the dollar. There is a strong possibility, it is indicated, that the company will be reorganized and will continue to operate. Values of the materials sold as announced by the auctioneer prior to the sale were disinfectants, soaps, insecticides, etc., $3,584.33; plant, $997.15; office equipment, etc., $547.17. Several leading American suppliers to the trade of sanitary products and equipment were reported listed among the creditors. William Plowfield, who prior to the formation of Puritan Laboratories was manager of the West Disinfecting Co. Toronto branch, was president of the firm.

F.T.C. Cites "Cedarol"

Gersten Bros., New York, have been ordered by the U. S. Federal Trade Commission to cease and desist from misrepresentations in the advertising and sale of its products "Cedarol Chests," "Cedarol Closets," "Mothodors," and "Cedarol Closet Moth Proofers" which were said to be of cedar and a protection against the ravages of moths. The storage receptacles were found to be of loose construction, not air-tight, and not constructed of red cedar.

Mosquito Extermination Report

The Nassau County Mosquito Extermination Commission, of which Ray H. Sammis is superintendent, has recently issued its annual report for 1938. It discusses the many activities engaged in by a mosquito control organization, under the five general types of work; salt marsh control, upland woodland swamp control, "house" mosquito control, catch basin control, and "service requests." During the year, the commission reported the use of 11,951 gallons of larvicide, half of which was sprayed during the months of September and October.

Zonite Wholesaler Plan

Zonite Products Corp., New Brunswick, N. J., has introduced a sales promotion plan under which they offer a discount to wholesalers of four per cent of net purchases in return for certain services acceptable by the company. Among these the wholesaler must make at least eight sales drives each year on selected Zonite products, grant compensation to his salespeople equal to three per cent of the net sales price of the products to retailers, and grant Zonite's representatives time at sales meetings.

F.T.C. Cites Pulvex

William Cooper & Nephews, Chicago, have stipulated to the Federal Trade Commission that in the sale of "Pulvex Flea Powder" they will cease publishing misrepresentations, that their preparations "kill fleas 100 per cent faster" or "in one-half the time formerly required." These claims implied incorrectly, the commission stated, that the preparation is 100 per cent more efficient than competing products.

Sniff Bar for M. M. & R.

Magnus, Mabee & Reynard, New York, have installed a "sniff bar" in their new building at 16 Desbrosses St. Essential oil buyers are invited to visit the bar and sniff and smell perfume oils to their heart's content. The "bar" is stocked with many new perfume odors from the M. M. & R. laboratories. They have also installed a bar at their Chicago offices.

NEW PEET-GRADY METHOD

The complete text of the new revised Peet-Grady Test for liquid spray insecticides, including the procedure for the new large batch technique, will be published exclusively in the 1939 edition of the SOAP BLUE BOOK, a copy of which will be mailed to each subscriber to SOAP later this month. This is the only place where the new official testing method of the National Association of Insecticide & Disinfectant Manufacturers will be published.

Climalene Appoints Managers

The Climalene Co., cleaning compounds and disinfectants, Canton, Ohio, has recently appointed R. H. Marriot sales promotion manager. M. G. Spahr is named Eastern division sales manager, with headquarters in Canton, and J. V. Martin, Western division sales manager, with offices in Chicago.

Issue Label Pamphlet

Label Manufacturers National Association, 60 East 42nd St., New York, has recently issued a pamphlet concerning the new regulations for the enforcement of the Food, Drug and Cosmetic Act. It attempts to clarify certain regulations that may prove troublesome.

Carr Joins Stewart & Ross

H. J. Carr, has joined Stewart & Ross Corp., Long Island City, New York, as vice-president. He was formerly vice-president and sales manager of Anchor Cap & Closure Corp., Long Island City.

To Advertise Lacquerwax

Lacquerwax Co., Hartford, Conn., has recently placed its advertising account with Wilson & Haight, Inc., that city. Plans call for the use of magazines, with collateral direct mail.

Amend Fluoride Specification

A new amendment to the U. S. specification for sodium fluoride (O-S-601) has recently been approved by the Director of Procurement and will become effective not later than May 1, 1939. The old specification indicated a white powder, where the new specification, bringing the U. S. standard into conformity with modern practice, specifies a Nile blue color for sodium fluoride. The color requirement reads as follows: "The powder shall be colored by incorporating with it a suitable organic dye to produce a color ranging from Pale Nile Blue to Nile Blue as designated by Ridgeway's Color Standards."

Delta Expands Quarters

Delta Chemical Co., New York, has recently enlarged its manufacturing and store room space for raw materials by 50 per cent. The company has been established for over six years, and in spite of the general business depression, has managed to increase its business.

F.T.C. Cites Hild Co.

Hild Floor Machine Co., Chicago, has been served by the Federal Trade Commission with an order prohibiting misleading representations in the sale of "Hild" rug shampoo and the "Hild" rug and carpet cleaning machine. The findings are that the company's claims are exaggerated in representing that its equipment cleans carpets and rugs without removal from the floor where used, as well as, or better than more expensive cleaning equipment installations used in plants especially equipped for cleaning carpets and rugs after removal from the floor.

Beirne Gets New Post

T. J. Beirne, who for the past ten years filled an important position in the general line sales division of National Can Corp., New York, will shortly return as manager of the Chicago headquarters of this company. Present facilities have been combined at 3623 South Racine Ave.

Latest Developments in Package Redesign

Above — Ultra Chemical Works, Paterson, N. J., won a prize for its novel floor wax package in the latest All-American package competition. The realistic linoleum background gives an instant impression of use. Container by National Can Co., N. Y.

Left — New standard container just designed for Twi-Laq Chemical Co., Brooklyn, by Sidney Carroll. Colors are blue and red. Cans supplied by Litho Can Corp., Brooklyn.

Right—Dr. G. H. Tichenor Antiseptic Co., New Orleans, in the latest package redesign for its "Antiseptic Refrigerant" retains enough of the flavor of the original package to make recognition easy on the shelf. Screw cap closure by Owens-Illinois.

Classified Advertising

Brings excellent results at a minimum cost. Rates are only 10c per word with a minimum charge of $2 per issue (position wanted advertisements accepted at half rates). Whether you have some surplus equipment or material for sale, have a position open or are looking for a new connection, etc., use space in the Classified Section of *Soap.* It ★★★ will place you in touch with the entire soap and sanitary products industry.

Disinfestation With Naphtha

At a meeting of the Royal Sanitary Institute held at Chester, England on January 20 and attended by officials of over thirty local authorities, Dr. B. T. Glover, senior assistant medical officer of health for Liverpool reported that during the last two years in Liverpool 1,500 houses found to be infested with bedbugs have been treated with heavy commercial naphtha with complete success. "Fourteen men on the staff of the Liverpool Health Department who have been engaged in this work for two years have," said Dr. Glover, "not suffered in health in the slightest degree." Heavy solvent naphtha has been in use for disinfestation in several parts of England but the most extensive use of it has been made in Liverpool. *Chemical Trade Journal and Chemical Engineer*, London.

Solinsky Forms Cans, Inc.

Robert S. Solinsky announces the formation of a new company, Cans, Inc. Offices are located at 541 N. Orleans St., Chicago and it is reported that a full line of tin containers will be supplied for the insecticide and sanitary chemical industry. As the first step in setting up the new company, the assets and business of Independent Can Co. have been purchased. Mr. Solinsky, a well-known figure in the can industry, was for a number of years connected with the Chicago office of Continental Can Company and just recently resigned as the Chicago manager for National Can Co. Further information regarding the development of Cans, Inc. will be announced at a later date.

Southern P.C.O. Meet

The first Southern Pest Control Operators' conference was recently held at Louisiana State University. Following the three-day session a brief business meeting was called by the chairman, E. R. Barber, at which time Wm. O. Buettner led a discussion on the desirability of a closer cooperation between the experiment stations and pest control operators in conducting practical research work of primary interest to the operators. Mr. Buettner also brought before the group the question of forming a State Association, plans for which are to be acted upon in the near future. The members of the conference were extended an invitation to attend the Seventh Annual Convention of the National Pest Control Association to be held in New York, October 23, 24, and 25.

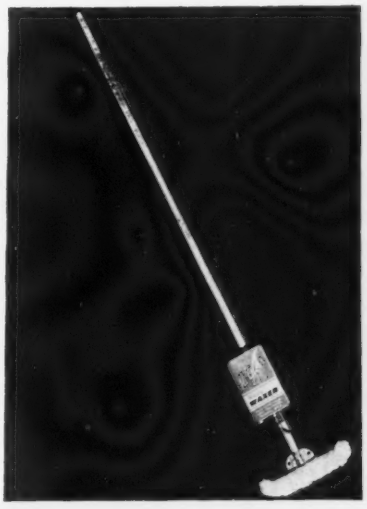
White Shoe Cleaners

A series of articles on these now all-year-around and important items of the chemical specialty field . . . white shoe cleaners, their composition, formulation, testing, packaging, etc. and equipment design . . . by Charles S. Glickman . . . beginning in an early issue of SOAP and SANITARY CHEMICALS.

Exterminators Honor Sheppard

Dr. H. H. Sheppard of the University of Minnesota Entomological department was recently made an honorary members of the North West Pest Control Association.

Among the recent winners in the 8th competition for the Irwin D. Wolf Awards for distinctive merit in packaging was S. Lowe & Sons, Fairfield, Conn. Their metal container for liquid wax received a blue ribbon for the most effective packaging of a combination sales unit.



Dow Issues New Catalogs

Dow Chemical Co., Midland, Michigan, has recently published four catalogues, each one covering a certain classification of their products, i.e., industrial chemicals and dyes, pharmaceutical and aromatic chemicals, organic solvents, and plastic materials and plasticizers. The various Dow chemicals are described, and in some cases vapor pressure, titration, specific gravity, boiling and freezing point curves are included. Also included are typical applications of Dow chemicals.

Derris Solvents

Derris resinate, the residue after extracting powdered derris root with acetone, ether or other solvent and removing the solvent, cannot be incorporated directly in petroleum-oil emulsion sprays since the resins flocculate and pass from the oil phase to the water phase. A number of alcohols, ethers, glycols, aldehydes, ketones, esters, amines, phenols and essential oils were examined as solvents for derris resinate, for solubility in petroleum-spray oils and solubility in water. The higher ketones gave the best results on the basis of solubility of derris resinate, stability of the mixture with petroleum oil and additive toxicity of the oil. Other compounds such as 2,2'-dichloroethyl ether, sassafras oil and the higher acetates gave favorable results. Further experiments in the laboratory and in the field indicate that methyl amyl ketone and 2,2'-dichloroethyl ether increase the toxicity of spray oils to several species of scale insects. J. P. LaDue. *J. Econ. Entomol.* **31,** 319-20 (1938).

Insecticide Briquets

Insecticides, fungicides and similar compositions are prepared by incorporating the liquid toxic material and other ingredients in a solid crystalline substance harmless to plant life, such as sugar. The mixture is molded into briquets. A suitable composition is prepared from sugar, sodium lauryl sulfate and the fluid extract of pyrethrum. Joseph Windsor and K. Dean-Davies & Co. Ltd. British Patent No. 489,198.

State Legislatures Active

A whole series of measures have been introduced in various legislatures to tighten control over manufacturers of household drugs, proprietary products, etc. Many of the state measures do not follow the pattern of the federal act and their enaction is being bitterly fought on the grounds that they would lead to endless confusion if enacted. In every case it is being urged that the effective date of these state bills be made not earlier than the effective date of the federal bill. Such bills have been introduced in Arkansas, New York, California, Connecticut, Massachusetts, Utah, West Virginia, Texas, Nevada and several other states. Bulletins describing the various measures are being mailed to members by the National Association of Insecticide and Disinfectant Manufacturers.

Clothes Moth Folder

A four-page two-color folder covering the use of naphthalene and paradichlorbenzene in the control of clothes moths and prevention of damage by these insects, is being issued by the White Tar Co., Kearny, N. J., Koppers subsidiary. Several million of these folders are being produced for distribution in retail stores to purchasers of naphthalene and paradichlorbenzene products, and mothproof bags and cabinets. The folders are unique in that they carry no advertising of the issuing company, only advertising of the store distributing them on the back cover. A check of the folder indicates that the claims for the insecticidal properties of the products are those which are recognized as correct by the Food and Drug Administration.

New P.C.O. Bill on Coast

There has recently been introduced into the California State Assembly, a new bill designed to replace and to clarify a bill now in effect, which regulates pest control operators and their work. The new bill defines several terms not covered in the present one. It also provides more stringent qualifications for pest control board members, as well as providing means for the bill's enforcement.

A prize winner in the recent All-America Package Competition was another McCormick & Co. package. This time their container for teaballs won an award.

Larvex Features New Copy

Larvex Division of Zonite Products Corp., New Brunswick, N. J., will use an increased magazine advertising schedule and a new type copy appeal in its Spring advertising campaign. The copy, which has been pre-tested, features the economy, convenience, and safety of the Larvex method of fabric moth-proofing. Walt disney's "Silly Symphony" movie cartoon, "The Moth and the Flame" is adapted to use in dealer display material.

Holland Represent Mantrose

Harry Holland & Son, Inc., Chicago, have recently been appointed western representatives for Mantrose Corp., Brooklyn. The Mantrose company offers a complete line of shellacs for wax manufacturers.

1937 Insecticide Output Shows Gain

Manufacturers of insecticides and industrial and household chemical compounds reported a considerable increase in value of products, and a higher rate of industry activity for 1937 as compared with 1935, according to a report issued by the U. S. Bureau of Census. During 1937 the value of products increased 33.2 per cent over 1935, while wages increased 37 per cent and cost of raw materials, containers, etc., increased 40.1 per cent.

The industry as classified for census purposes, includes concerns engaged primarily in the manufacture of chemical preparations for industrial, agriculture, and household use. It does not cover the manufacture of proprietary medicines nor

Summary for the Industry: 1937, 1935 and 1933

(Because they account for a negligible portion of the national output, plans with annual production valued at less than $5,000 have been excluded since 1919.)

	1937	1935	1933	Percent of increase 1935-1937	Percent of increase 1933-1937
Number of establishments	573	546	380	4.9	50.8
Wage earners (average for the year)[1]	4,322	3,466	1,977	24.7	118.6
Wages[2]	$4,659,372	$3,401,387	$1,856,430	37.0	151.0
Cost of materials, supplies, containers, fuel, and purchased electric energy[2]	$34,103,393	$24,343,531	$11,210,546	40.1	204.2
Value of products[2]	$71,168,239	$53,429,197	$27,908,314	33.2	155.0
Value added by manufacture[3]	$37,064,846	$29,085,066	$16,697,768	27.4	122.0

[1] Not including salaried officers and employees. Data for such officers and employees will be included in a later report. The item for wage earners is an average of the numbers reported for the several months of the year. In calculating it, equal weight must be given to full-time and part-time wage earners (not reported separately by the manufacturers), and for this reason it exceeds the number that would have been required to perform the work done in the industry if all wage earners had been continuously employed throughout the year. The quotient obtained by dividing the amount of wages by the average number of wage earners cannot, therefore, be accepted as representing the average wage received by full-time wage earners. In making comparisons between the figures for 1937 and those for earlier years, the possibility that the proportion of part-time employment varied from year to year should be taken into account.

[2] Profits or losses cannot be calculated from the Census figures because no data are collected for certain expense items, such as interest, rent, depreciation, taxes, insurance, and advertising.

[3] Value of products less cost of materials, supplies, containers, fuel, and purchased electric energy.

of cosmetics and other toilet preparations, which are assigned to other classifications.

Statistics for 1937, with comparative figures for 1935 and 1933, are given in the accompanying table. All figures for 1937 are preliminary and subject to revision. Detailed statistics on production are given in a separate table.

Table 2.—Products, by Kind, Quantity, and Value: 1937 and 1935

(No comparable figures for 1933 are available)

	1937	1935
1. "Insecticides and Fungicides, and Industrial and Household Chemical Compounds Not Elsewhere Classified" industry, all products, total value	$71,168,239	$53,429,197
2. Insecticides and fungicides, and industrial and household chemical compounds	$61,241,204	$48,255,746
3. Other products (not classified in this industry)	$9,927,035	$5,173,451
4. Insecticides and fungicides, and industrial and household chemical compounds, made as secondary products in other industries, value	$34,928,637	$20,986,102
Insecticides and fungicides, and industrial and household chemical compounds, aggregate value (sum of 2 and 4)	$96,169,841	$69,241,848
Deodorants, other than for human use, value	$1,037,173	$779,246
Disinfectants and insecticides, total value	$41,934,415	$37,945,785
Disinfectants and insecticides reported by kind:		
Agricultural insecticides, fungicides, total value	$17,800,118	$16,543,840
Calcium arsenate:		
Pounds	37,001,959	43,295,354
Value	$1,879,253	$2,322,394
Lead arsenate:		
Pounds	63,291,440	52,145,851
Value	$5,540,885	$4,173,462
Lime-sulphur, dry:		
Pounds	4,366,090	8,398,926
Value	$340,688	$425,470
Lime-sulphur solution:		
Gallons	10,864,924	10,165,903
Value	$1,013,239	$990,572
Paris green:		
Pounds	1,834,340	2,638,210
Value	$336,152	$489,427
Sulphur dust:		
Pounds	19,365,392	
Value	$534,054	$8,142,515
Other agricultural insecticides and fungicides, including nicotine sulphate, value	$8,155,847	
Household insecticides and repellants, total value	$17,819,945	$13,302,727
Fly sprays:		
Pounds	45,338,893	21,188,424
Value	$7,339,231	$5,722,930
Insect powder (Pyrethrum):		
Pounds	7,100,682	4,384,922
Value	$2,021,751	$1,408,511
Fluoride powders and mixtures:		
Pounds	1,072,800	834,370
Value	$423,032	$424,850
Moth repellants:		
Pounds	19,139,512	*3,440,131
Value	$3,040,647	*$1,095,118
Household insecticides and repellants not reported by kind, value	$4,995,284	$4,651,318
Disinfectants value	$6,314,352	$5,245,916
Disinfectants and insecticides not reported by kind, value		$2,853,302
Boiler compounds, value	$4,318,720	$5,882,981
Insulating compounds, value	$1,982,952	
Household ammonia, value	$869,740	
Household tints and dyes, value	$3,274,961	
Metal and oil treating compounds, value	$5,290,873	$24,633,836
Waterproofing compounds, value	$1,221,231	
Other industrial and household chemical compounds, value	$36,239,776	

* Data incomplete.

F.T.C.Closes "Terminex" Case

The Federal Trade Commission has closed its case against E. L. Bruce Co., Memphis, charged with making misleading representations in the sale of "Terminex," a chemical for treating lumber affected by termites. Closing of the case was directed after the company entered into a stipulation as to the facts and an agreement not to resume certain representations concerning the effectiveness and importance of its product.

Fair Exterminating Contracts

Exterminating Services Corp., New York, has been awarded the general exterminating contract for the 1939 duration of the New York World's Fair. Eight pest control concerns were selected to bid for the work which is estimated to be the largest operation ever contracted for in the East. The work is under the supervision of Jacques J. Hess, vice-president of the company. Every exhibitor storing or displaying foodstuffs of any description is required to employ the services of an approved pest control concern. Approved, in this instance, means the eight concerns that were qualified to bid. They are, besides Exterminating Service, Bliss Exterminator Co., Guarantee Exterminating Co., Excell Exterminating Co., General Exterminating Corp., Vermite Exterminating Co., Majestic Exterminating Co. and Sameth Exterminating Co.

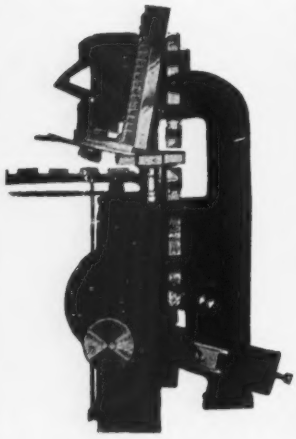
Wants Polish Agency

A firm in Stockholm, Sweden, desires an agency for the sale of varnishes and polishes for floors and linoleums. Interested American firms may secure further information by applying to the U. S. Bureau of Foreign and Domestic Commerce, referring to file No. 330.

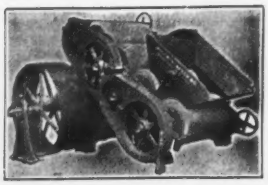
"Solvent Seal" Wanted

A reader of SOAP has asked to be supplied with the name of the manufacturer who makes a product called "Solvent Seal". If any of our readers has the necessary information, SOAP would appreciate hearing from him.

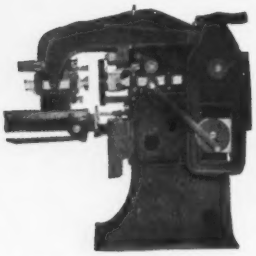
Special Offerings of SOAP MACHINERY *Completely Rebuilt!*



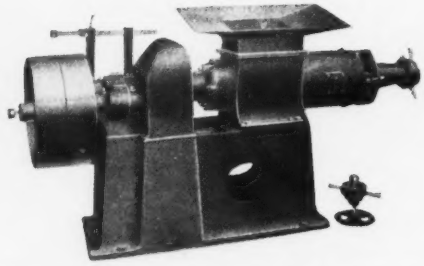
Small size fully automatic Jones toilet soap press. Capacity 150 to 200 small cakes per minute. A real buy at an attractively low price. Has been completely rebuilt in our own shops.



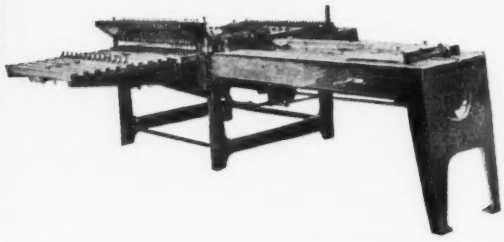
H-A SOAP MILL
This 4-roll granite toilet soap mill is in A-1 shape. Latest and largest size rolls.



4 JONES AUTOMATIC combination laundry and toilet soap presses. All complete and in perfect condition.

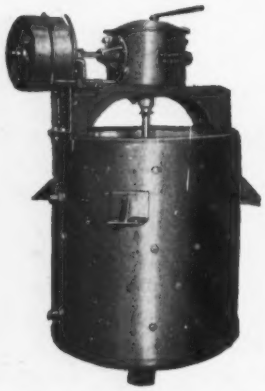


Single screw soap plodders with 6, 8, 10 or 12 inch screws. All completely rebuilt and unconditionally guaranteed.



2 Automatic Power Soap Cutting Tables.

NEW CRUTCHERS!



This Newman brand new, all steel steam jacketed soap crutcher. Will crutch any kind of soap. We also build another crutcher especially adapted for laundry soap in addition to other new soap machinery such as frames, cutting tables, etc. Send for complete list.

ADDITIONAL REBUILT SOAP MACHINERY

All used equipment rebuilt in our own shops and guaranteed first class condition.

- H-A, 1500, 3000, 4000, 5000 lbs. capacity. Steam Jacketed Crutchers.
- Dopp Steam Jacketed Crutchers, 1000, 1200, 1500 lbs. and 800 gals. capacity.
- Ralston Automatic Soap Presses.
- Scouring Soap Presses.
- Empire State, Dopp & Crosby Foot Presses.
- 2, 3, 4, 5 and 6 roll Granite Toilet Soap Mills.
- H-A 4 and 5 roll Steel Mills.
- H-A Automatic and Hand-Power slabbers.
- Proctor & Schwartz Bar Soap Dryers.
- Blanchard No. 10-A and No. 14 Soap Powder Mills.
- J. H. Day Jaw Soap Crusher.
- H-A 6, 8 and 10 inch Single Screw Plodders.
- Allbright-Nell 10 inch Plodders.
- Filling and Weighing Machine for Flakes, Powders, etc.
- Steel Soap frames, all sizes.
- Steam Jacketed Soap Remelters.
- Automatic Soap Wrapping Machines.
- Glycerin Evaporators, Pumps.
- Sperry Cast Iron Square Filter Presses, 10, 12, 18, 24, 30 and 36 inch.
- Perrin 18 inch Filter Press with Jacketed Plates.
- Gedge-Gray Mixers, 25 to 6000 lbs. capacity, with and without Sifter Tops.
- Day Grinding and Sifting Machinery.
- Schultz-O'Neill Mills.
- Day Pony Mixers.
- Gardiner Sifter and Mixer.
- Proctor & Schwartz large roll Soap Chip Dryers complete.
- Doll Steam Jacketed Soap Crutchers, 1000, 1200 and 1350 lbs. capacity.
- Day Talcum Powder Mixers.
- All types and sizes—Tanks and Kettles.
- Ralston and H-A Automatic Cutting Tables.
- Soap Dies for Foot and Automatic Presses.
- Broughton Soap Powder Mixers.
- Williams Crutcher and Pulverizer.
- National Filling and Weighing Machines.

Send us a list of your surplus equipment—
we buy separate units or complete plants.

NEWMAN TALLOW & SOAP MACHINERY COMPANY

1051 W. 35th St.
CHICAGO

Our Forty Years Soap Experience Can Help Solve Your Problems

Classified Advertising

Classified Advertising—All classified advertisements will be charged for at the rate of ten cents per word, $2.00 minimum, except those of individuals seeking employment where the rate is five cents per word, $1.00 minimum. Address all replies to Classified Advertisements with Box Number. care of *Soap*, 254 West 31st St., New York.

Positions Wanted

Salesman—Young man with several years' experience in the petroleum field desires new connection in sales work for manufacturer of soaps or sanitary specialties where there is a good future. For further details communicate with Box No. 549, care of *Soap*.

Soapmaker—Superintendent: Expert at kettles, yellow and white bar and toilet soaps, pure and cheap filled soap flakes, soap powder and cleansers. Also glycerine recovery. Address Box No. 570, care *Soap*.

Sales Service: Soap-chemist well versed in the application and sale of Laundry- Textile- Tanners & Paper-mill- soaps and cleaners is interested in responsible position on Pacific coast. Present employment requiring 3 month notice. Address Box No. 558, care of *Soap*.

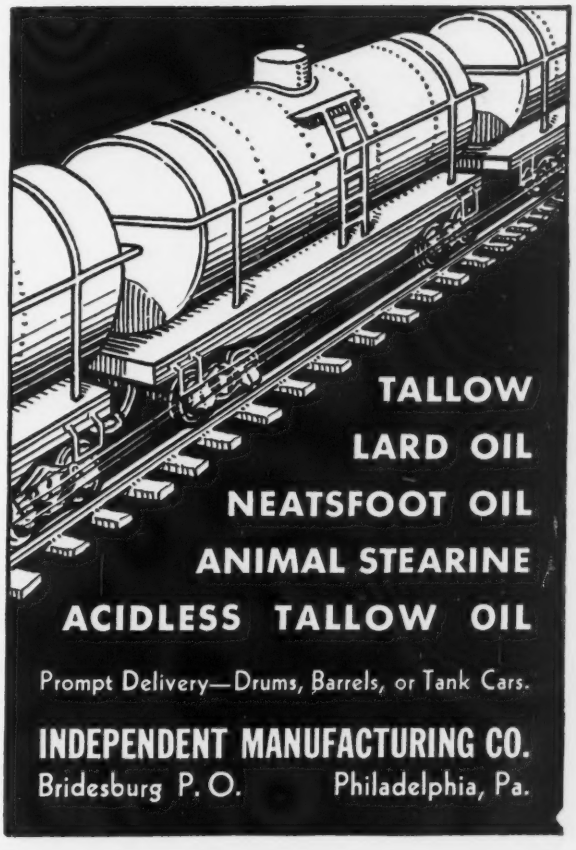
Chemist, Soap maker. Expert on neutral liquid and soft soaps. Shaving creams, waxes, polishes, deodorants, disinfectants and moth proofers. A thorough knowledge of manufacturing, production and general factory management. Available for a permanent connection or consulting work. Address Box No. 561, care of *Soap*.

Soapmaker and Chemist—backed by years of experience and capable of analyzing and recreating anything pertaining to soap. Familiar with rendering and industrial oils. Address Box No. 567, care *Soap*.

Soap Maker and Chemist with long experience in the manufacture of all kinds and grades of soaps and soap products. Pacific coast preferred. Address Box No. 560, care of *Soap*.

Soapmaker and Chemist has many customers and first class formulas from well-known soap house. Wants responsible position with small or large soap concern. Chicago district. Address Box 568, care *Soap*.

Soapmaker and Chemist, good worker, good references, experienced in laundry chips, flakes, powder, bars, green auto bars, any kind of potash soaps, shampoos bases, specialty soaps, etc., looking for steady position. Address Box No. 569, care *Soap*.



Raw Materials and Equipment

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 132 for page numbers. *"Say you saw it in SOAP."*

ALKALIES

American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
Diamond Alkali Co.
Dow Chemical Co.
Eastern Industries
Hooker Electrochemical Co.
Innis, Speiden & Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.
Warner Chemical Co.
Welch, Holme & Clark Co.

BULK AND PRIVATE BRAND PRODUCTS

Associated Chemists, Inc. (Insecticides)
Baird & McGuire, Inc. (Disinfectants)
Buckingham Wax Corp. (Wax Products)
Candy & Co. (Floor Products)
Chemical Supply Co. (Disinfectants, etc.)
Clifton Chemical Co. (Sanitary Supplies)
Davies-Young Soap Co. (Potash Soaps)
Federal Varnish Co. (Floor Products)
Fuld Bros. (Sanitary Supplies)
Harley Soap Co. (Soap Specialties)
R. M. Hollingshead Corp. (Floor Products)
Hysan Products Co. (Sanitary Supplies)
Koppers Co. (Disinfectants)
Kranich Soap Co. (Potash Soaps)
Peck's Products Co. (Sanitary Supplies)
Philadelphia Quartz Co. (Detergents)
Geo. A. Schmidt & Co. (Soaps)
Shawmut Specialty Co. (Wax Products)
Sweeping Compound Mnfrs. of N. Y. (Floor Products)
Twi-Laq Chemical Co. (Wax Products)
Uncle Sam Chemical Co. (Sanitary Supplies)
T. F. Washburn Co. (Floor Products)
White Tar Co. (Disinfectants, etc.)
Windsor Wax Co. (Wax Products)

CHEMICALS

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
John A. Chew, Inc.
Columbia Alkali Co.
Diamond Alkali Co.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Eastern Industries
General Dyestuffs Corp.
Hooker Electrochemical Co.
Industrial Chemical Sales Div.
Innis, Speiden & Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Philadelphia Quartz Co.
Rohm & Haas Co.
Solvay Sales Corp.
Standard Silicate Co.
Jos. Turner & Co.
Victor Chemical Works
Warner Chemical Co.
Welch, Holme & Clark Co.

COAL TAR RAW MATERIALS

(Cresylic Acid, Tar Acid Oil, etc.)

American-British Chemical Supplies
American Cyanamid & Chemical Corp.
Baird & McGuire, Inc.
Barrett Co.
Innis, Speiden & Co.
Koppers Co.
Monsanto Chemical Co.
Reilly Tar & Chemical Co.
White Tar Co.

COLORS

Fezandie & Sperrle
Pylam Products Co.

CONTAINERS and CLOSURES

American Can Co. (Tin Cans and Steel Pails)
Anchor-Hocking Glass Corp. (Closures & Bottles)
Continental Can Co. (Tin Cans)
National Can Co. (Cans)
Owens-Illinois Glass Co. (Bottles & Closures)
Wilson & Bennett Mfg. Co. (Steel Pails and Drums)

DEODORIZING BLOCK HOLDERS

Clifton Chemical Co.
Fuld Bros.
National Sanitary Chemical Co.

INSECTICIDES, SYNTHETIC

American Cyanamid & Chemical Corp.
Rohm & Haas Co.
Whitmire Research Corp.

MACHINERY

Anthony J. Fries (Soap Dies)
Houchin Machinery Co. (Soap Machinery)
Huber Machine Co. (Soap Machinery)
International Nickel Co. (Monel Metal)
R. A. Jones & Co. (Automatic Soap Presses and Cartoning Machinery)
Karl Kiefer Machine Co. (Filling Machinery)
Koppers Company (Coal Tar Plants, Power Plants, Valves, Castings, Pipe, Tanks)
Mixing Equipment Co. (Tanks, Mixers)
Proctor & Schwartz (Dryers)
C. G. Sargent's Sons Corp. (Dryers)
Sprout, Waldron & Co. (Mixing, Conveying, etc)
Stokes & Smith Co. (Pkg. Machy.)

MACHINERY, USED

Consolidated Products Co.
Newman Tallow & Soap Machinery Co.

(Continued on page 130)

Competent Soap-maker and Chemist: Specialist in high grade shampoos, shaving cream, paste- oil-granulated- and textile soaps desires connection with firm in California. At present employed. Owns three patent-applications. Address Box No. 557, care of *Soap*.

Experienced Soap-Maker just arrived from Europe wishes position. Worked for finest houses on perfumed and commercial soaps. Address Box No. 559, care of *Soap*.

Soap Chemist—Young man with two years' experience in control laboratory of large soap manufacturer desires new position, preferably in the East. Chemical graduate of large American university—class 1934. Best references. Box No. 556.

Soap Executive—Man with ten years' experience in management soap plant in Prague and in U. S., general management and sales toilet and laundry soaps, fatty acids, glycerine, desires connection in U. S. with medium size firm. Will invest. American citizen. For further details, communicate with Box No. 551, care *Soap*.

Positions Open

Wanted: Graduate Engineer, with Soap Company, on design work of Chemical Processes, knowledge of distillation, evaporation, mixing, materials of engineering, proportioning equipment and controls, and heat exchangers. Experience desirable, but not necessary on various methods of drying, drum, tray, rotary, spray towers. General experience in oil refinery might indicate fitness of applicant. Experience ten or more years. Salary $3,000 to $4,200. Address Box No. 572, care *Soap*.

Salesman Wanted: By a manufacturer of liquid and scrub soaps. Offers an excellent opportunity to a man with a proven record of sales in the New York area. Address Box No. 575, care *Soap*.

Miscellaneous

Complete Soap Plant Equipment for Sale: Proctor soap chip dryer; automatic soap press; wrapping machine: 4 roll stone mills; foot press; plodders 6", 8", 10"; soap boiling kettles; 6 knife chipper; two-way cutting table; frames; filter presses; crutchers; mixers; boilers. Stein Equipment Corp., 426 Broome St., New York City.

Guaranteed Rebuilt Equipment for Every Need: Soap presses, frames, slabbers, plodders, chip dryers, mills, powder disintegrators, crutchers, filter presses, powder mixers, all type of mixers, pulverizers, oil expellers, glycerine evaporator, rotary syphon fillers, cartoning and wrapping machines, labelers, pony mixers, tube filler, boilers, pump, compressors, tanks, and kettles. First Machinery Corp., 419 Lafayette St., New York, N. Y.

Small Business Wanted—Manufacturer in Eastern state will purchase goodwill and equipment of small growing business manufacturing products suitable for distribution through grocery and drug trades. Desire business doing not less than $50,000 per year for consolidation with present business. Send details Box 550, care of *Soap*.

Sales Agent: Firm with connections in department and chain stores in New York and New England states desires to represent manufacturer or manufacturers in that territory of a line of household products such as disinfectants, fly sprays, polishes, etc. Not now handling this line but well connected in channels where sold. Communicate with Box No. 552, care *Soap*.

Wanted—Fully automatic deodorant blockette machine in good condition. Give full particulars. Address Box No. 574, care *Soap*.

Floor Brushes—We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Sales Agent: Firm Pacific Coast desires to represent American manufacturers or sales agents in that territory. Interested manufacturers containers, chemicals and basic raw materials for manufacturers soaps, drugs, cosmetics, insecticides, allied products. Finest references. Address Box No. 553, care *Soap*.

Raw Material and Equipment Guide

(*Continued from page* 128)

NOTE: This is a classified list of the companies which advertise regularly in SOAP. It will aid you in locating advertisements of raw materials, bulk and private brand products, equipment, packaging materials, etc., in which you are particularly interested. Refer to the Index to Advertisements, on page 132 for page numbers. *"Say you saw it in SOAP."*

MISCELLANEOUS

American Colloid Co. (Bentonite)
American Standard Mfg. Co. (Wax Applicator)
Anchor-Hocking Glass Corp. (Metal Caps)
Dow Chemical Co. (Germicides, Agricultural Insecticides, **Fumigants)**
Garnet Chem. Corp. (Drip Machines)
Hercules Powder Co. (Pine Oil and Rosin)
Industrial Chemical Sales Div. (Decol. carbon, Chalk)
Innis, Speiden & Co. (Fumigants)
Koppers Company (Coal, Coke, Roofing Materials)
Pennsylvania Refining Co. (White Oils)
Pylam Products Co. (Lathering Agent)
S. Schwabacher & Co. (Naphthenic Soaps, White Mineral Oils)

OILS, FATS, AND FATTY ACIDS

Eastern Industries
Independent Mfg. Co.
Industrial Chemical Sales Div.
Leghorn Trading Co.
Murray Oil Products Co.
Newman Tallow & Soap Machinery Co.
Orbis Products Corp. (Stearic Acid)
Wecoline Products Co.
Welch, Holme & Clark Co.

PARADICHLORBENZENE

John A. Chew, Inc.
Dow Chemical Co.
E. I. du Pont de Nemours & Co.
Hooker Electrochemical Co.
Monsanto Chemical Co.
Niagara Alkali Co.
Solvay Sales Corp.
Jos. Turner & Co.

PERFUMING MATERIALS

Amer-British Chemical Supplies
Aromatic Products, Inc.
Compagnie Parento
Dodge & Olcott Co.
Dow Chemical Co.
P. R. Dreyer Inc.
E. I. Du Pont de Nemours & Co.
Felton Chemical Corp.
Firmenich & Co.
Fritzsche Brothers, Inc.
General Drug Co.
Givaudan-Delawanna, Inc.
Magnus, Mabee & Reynard, Inc.
Monsanto Chemical Co.
Norda Essential Oil & Chemical Co.
Orbis Products Corp.
Schimmel & Co.
Ungerer & Co.
Van Ameringen-Haebler, Inc.

PETROLEUM PRODUCTS

Deodorized Insecticide Base, White Oils, Petrolatum, Paraffine, Oils, etc.

Atlantic Refining Co.
Pennsylvania Refining Co.
S. Schwabacher & Co.
L. Sonneborn Sons.

PHOSPHATES

Trisodium, Sodium Pyrophosphate, etc.

American Cyanamid & Chemical Corp.
John A. Chew, Inc.
E. I. du Pont de Nemours & Co.
Monsanto Chemical Works
Victor Chemical Works
Warner Chemical Co.

PYRETHRUM AND DERRIS PRODUCTS

Insect Flowers and Powder, Pyrethrum Extract, Derris Products

Associated Chemists, Inc.
Derris, Inc.
S. B. Penick & Co.
R. J. Prentiss & Co.
McCormick & Co.
McLaughlin, Gormley, King Co.
John Powell & Co.

SILICATES

E. I. du Pont de Nemours & Co.
Philadelphia Quartz Co.
Standard Silicate Co.

SOAP DISPENSERS

Bobrick Mfg. Co.
Clifton Chemical Co.
Fuld Bros.
Garnet Chem. Corp.

SPRAYERS

Breuer Electric Mfg. Co. (Electric)
Fumeral Co. (Spraying Systems)
Universal Metal Prods. Co.

WAXES AND GUMS

Carnauba, Shellac, Candelilla, etc.

General Dyestuff Corp. (Waxes)
Innis, Speiden & Co. (Waxes)
Mantrose Corp. (Shellac)

Professional Directory

Index to Advertisers

For product classification see pages **128** *and* **130**

* For further details see announcement in 1938 SOAP BLUE BOOK

*American-British Chemical Supplies 52
American Can Co. 46
American Colloid Co. 118
American Cyanamid & Chemical Corp. 9
American Standard Mfg. Co. 124
*Anchor-Hocking Glass Corp. 7, 48
Aromatic Products, Inc. 10
Associated Chemists, Inc. 102
Atlantic Refining Co. ..... Feb.

*Baird & McGuire, Inc. 88
Barrett Co. 116
Bobrick Mfg. Co. 50
Books ..... Jan.
*Breuer Electric Mfg. Co. 112
Buckingham Wax Corp. 102

Candy & Co. ..... Feb.
Chemical Supply Co. 104
John A. Chew, Inc. 116
*Clifton Chemical Co. 38
*Columbia Alkali Co. 4
Compagnie Parento 122
*Consolidated Products Co. 127
*Continental Can Co. ..... Dec.

*Davies-Young Soap Co. 11
*Derris, Inc. 104
Diamond Alkali Co. ..... Feb.
*Dodge & Olcott Co. 94
*Dow Chemical Co. ..... Feb.
P. R. Dreyer Inc. ..... Feb.
*E. I. DuPont de Nemours Co. 44

Eastern Industries 34
*Electro Bleaching Gas Co. 16

*Federal Varnish Co. 110
*Felton Chemical Co. 77, 83
Fezandie & Sperrle 122
*Firmenich & Co. ..... 2nd Cover
Anthony J. Fries 120
Fritzsche Brothers, Inc. 42, 43
*Fuld Brothers 3
Fumeral Co. 110

Garnet Chemical Corp. 106
*General Drug Co. 8
General Dyestuff Corp. 6
*Givaudan-Delawanna, Inc. ..... 75, 3rd Cover
Charles S. Glickman 131

Harley Soap Co. 124
Hercules Powder Co. ..... Dec.
*Hochstadter Laboratories 131
R. M. Hollingshead Corp. 120
*Hooker Electrochemical Co. ..... Feb.
*Houchin Machinery Co. 62
*Huber Machine Co. 122
Hysan Products Co. 114

Illinois Chemical Labs. 131
Independent Mfg. Co. 127

*Industrial Chemical Sales Division
W. Va. Pulp & Paper Co. 56
*Innis-Speiden & Co. 54

R. A. Jones & Co. 18

Karl Kiefer Machine Co. 106
*Koppers Co. 87
Kranich Soap Co. 68

Lancaster, Allwine & Rommel 131
*A. P. Lee 131
*Leghorn Trading Co. ..... Jan.
Lenape Trading Co. ..... Feb.

Magnus, Mabee & Reynard, Inc. 86
Mantrose Corp. ..... Feb.
Manufacturing Chemist 133
*McCormick & Co. 96
McLaughlin Gormley King Co. ..... 4th Cover
Mirvale Chemical Co. 118
Mixing Equipment Co. ..... Feb.
Monsanto Chemical Corp. 71
Murray Oil Prods. Co. 118

*National Can Co. 79
National Sanitary Chemical Co. 112
*Newman Tallow & Soap Machinery Co. 126
*Niagara Alkali Co. 16
Norda Essential Oil & Chemical Co. 78

*Orbis Products Co. ..... Feb.
Owens-Illinois Glass Co. ..... Feb.

*Pease Laboratories 131
Peck's Products Co. 118
S. B. Penick & Co. 76
Penna Refining Co. ..... Feb.
Philadelphia Quartz Co. 64
*John Powell & Co. 72, 73
R. J. Prentiss & Co. 74
*Proctor & Schwartz, Inc. 68
*Pylam Products Co. 122

*Reilly Tar & Chemical Co. 114
*Rohm & Haas Co. 82

*C. G. Sargent's Sons Corp. 66
Schimmel & Co., Inc. ..... Feb.
George A. Schmidt & Co. 120
S. Schwabacher & Co. ..... Jan.
Seil, Putt & Rusby 131
Shawmut Specialty Co. 124
*Skinner & Sherman 131
*Foster D. Snell 131
*Solvay Sales Corp. 13
*L. Sonneborn Sons 98
Sprout, Waldron & Co. 124
Standard Container, Inc. ..... Feb.
Standard Silicate Co. ..... Feb.
Stillwell & Gladding 131
Stokes & Smith Co. 40
Sweeping Compound Mnfrs. of N. Y. ..... Nov.

*Tar & Chem. Division Koppers Co. 87
Twi Laq Chemical Co. 116
*Jos. Turner & Co. ..... Feb.

*Uncle Sam Chemical Co. ..... Feb.
*Ungerer & Co. ..... Front Cover
Universal Metal Products Co. 108

*Van Ameringen-Haebler, Inc. 17, 81
Victor Chemical Works 14, 15

*Warner Chemical Co. ..... Feb.
*T. F. Washburn Co. 108
Wax Pol Laboratories ..... Dec.
Wecoline Products Co. 129
*Welch, Holme & Clark Co. 52
*White Tar Co. of N. J. 87
Whitmire Research Corp. 100
Wilson & Bennett Mfg. Co. 66
Windsor Wax Co. ..... Feb.

Every effort is made to keep this index free of errors, but no responsibility is assumed for any omission.

Tale Ends

IN this business of state legislation, the bullets are flying thick and fast these days,—and the targets in the majority of cases are manufacturers, mostly manufacturers from other states. And manufacturers of various chemical specialties, insecticides, disinfectants, and similar household products are not being overlooked in the general shooting. If we were a manufacturer right now, we certainly would be looking for cover of some kind. If we were not members of our trade association, we would run, not walk, to the nearest association office and sign up in a hurry.

* * *

Small manufacturers are the chief offenders in asking us for formulas and manufacturing directions. We have long since ceased becoming angry over these requests. We used to get mad and write tough letters. Now, we are more inclined to feel sorry for the bird who would attempt to go into any product based alone on a formula supplied him by a trade publication. He is not only a menace to his industry, but he is sending an engraved invitation to Mr. Trouble and the whole Trouble family to pay *him* a nice long visit.

* * *

Flash! News from the production department that the 1939 *Blue Book* is about to be printed and will soon be distributed to subscribers! The biggest, most complete *Blue Book* yet! Reminder . . . is your subscription to *Soap and Sanitary Chemicals* paid up? If so, you will receive a *free* copy. If your subscription has lapsed, better pay it up,—that is, if you want a copy of the 1939 *Blue Book*.

* * *

A last reminder,—don't forget the 1939 annual Drug, Chemical and Allied Trades dinner at the Waldorf in New York on March 9. Anticipated attendance . . . about 1,800!